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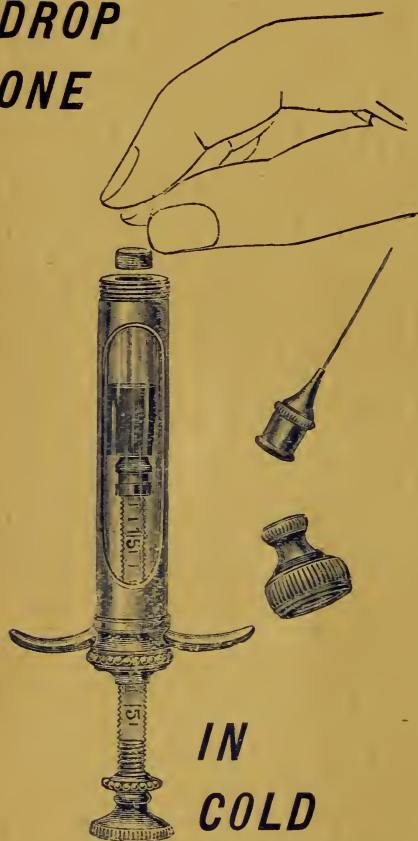
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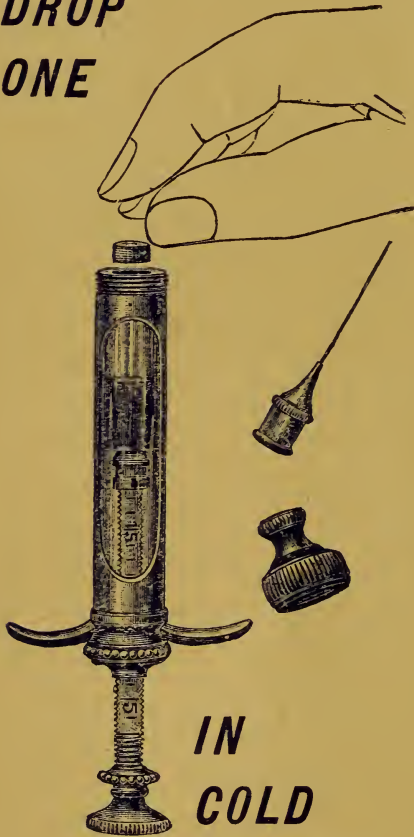
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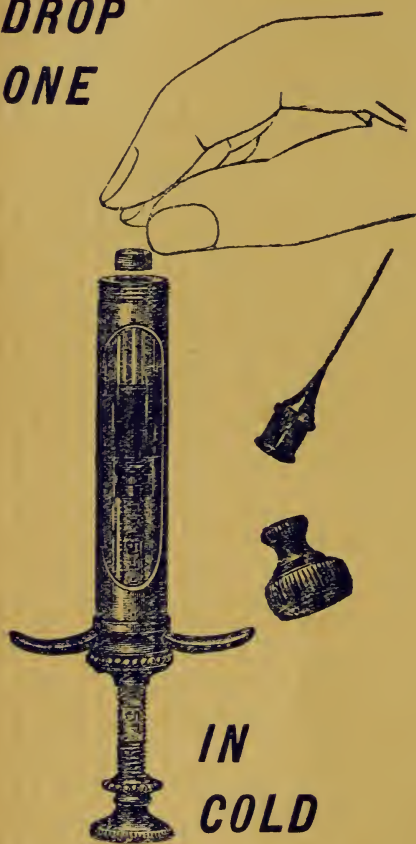
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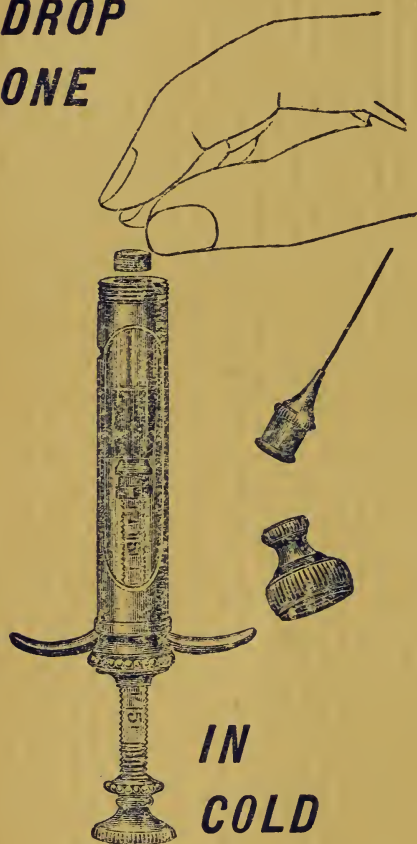
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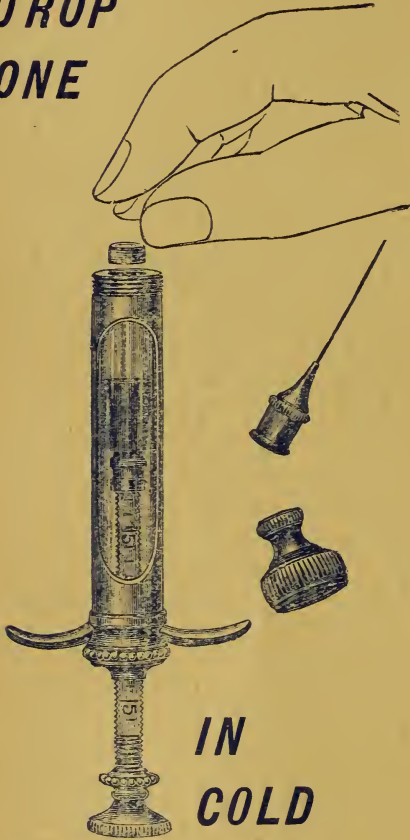
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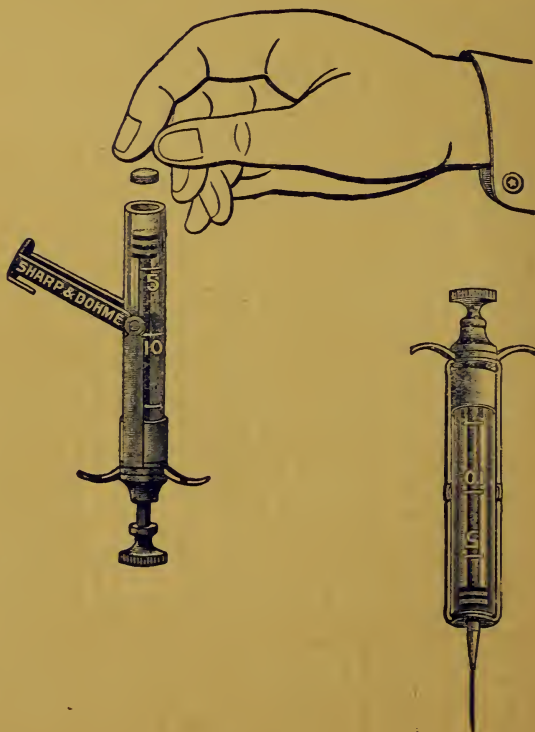
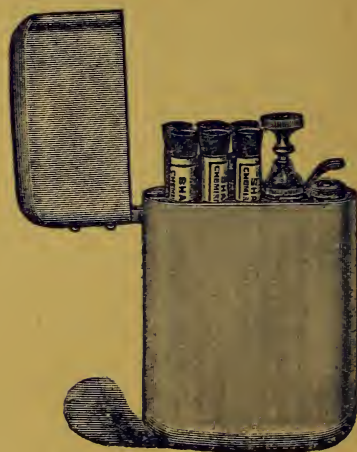
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THE AMERICAN THERAPIST.

A Monthly Record of Modern Therapeutics,

WITH PRACTICAL SUGGESTIONS,

RELATING TO THE CLINICAL APPLICATION OF DRUGS.

ESTABLISHED 1892, BY THE AMERICAN THERAPIST PUBLISHING COMPANY.

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Published by

THE AMERICAN THERAPIST PUBLISHING COMPANY,
NEW YORK.

Subscription Price \$1.00 a year.

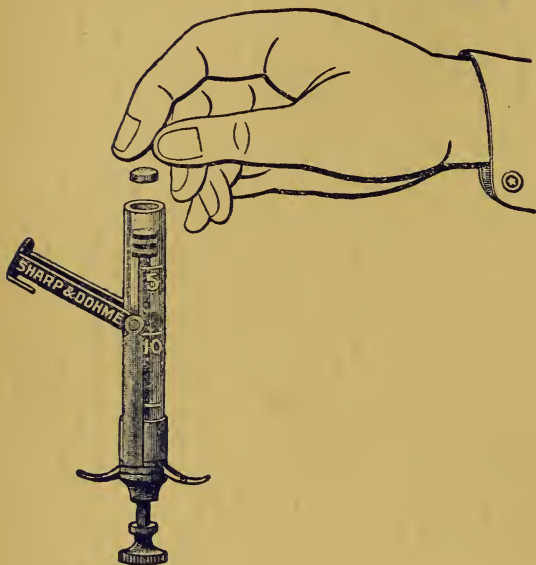
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VOL. VI.

NEW YORK, JULY 15th, 1897.

No. 1.

Original Articles.

*THE USE OF NORMAL HORSE BLOOD SERUM IN THE TREATMENT OF TUBERCULOSIS.**

By W. THORNTON PARKER, M.D., (Munich),
Groveland, Mass.

Member of the American Medical Association, Member of
the Massachusetts Medical Society, etc.

GENTLEMEN:—When this paper was promised to be read at the meeting of the American Medical Association, it seemed as if ample time and opportunity would be afforded to make some experiments with normal horse blood serum in the treatment of tuberculosis. Unfortunately too many obstacles have been encountered to bring this about, and while considerable has been done and many investigations have been made, the interesting work which I had planned must wait for better opportunities before definite results can be presented.

In searching for information concerning tuberculosis, and in collecting the records of experiments with normal horse blood serum, much that is valuable has been found, and it seems as if we are justified in believing that in the near future this form of serum-therapy will secure the serious attention of the medical profession.

Beyond a peradventure the treatment of phthisis, in spite of the great improvements which have been made, is still so eminently unsatisfactory that any suggestion which promises to be an improve-

ment on the old methods, ought to have a patient examination and trial.

Phthisis is, generally speaking, a preventable disease, and is to be attributed in most cases to neglect of the laws of hygiene. Its origin is to be sought for in weakened constitutions, in homes where sanitary conditions are more or less wanting, in the habits which prevent proper expansion of the chest, and where air more or less vitiated is breathed instead of the pure air containing the ingredients necessary for health and life. It depends largely upon improper food and clothing, unhealthy homes, deprived of needed sunlight and poisoned with damp and musty atmosphere. It is found in those whose habits are sedentary, and where exposure to raw and chilly winds takes place; in bodies whose circulation is not strong enough to react after exposure.

Sanitary science has diminished very largely, within the last twenty-five years, the mortality from what used to be "the terrible scourge of consumption."

We find this disease common in towns where indifference exists as to wholesome water and air supply, and where noxious odors are continually tolerated, and where sanitary conditions are not what they should be.

The following quotation from Pepper's System of Medicine, Vol. I, p. 101, article on General Morbid Processes, by Dr. Reginald H. Fitz, is of value in this connection.

"The discoveries of Koch show that the production of tuberculosis is dependent upon the presence of destructive bacilli, and that these bacilli are present not only in miliary tubercles but in scrofulous glands and joints, in cheesy inflammation of the lungs, and in the pearly

* Presented at the Meeting of the American Medical Association, Section of State Medicine, Philadelphia, June 1-4, 1897.

distemper of animals. The identification of tuberculosis with the pearly distemper and certain scrofulous affections is thus established from the etrological as well as the histological point of view. As the bacilli are to be regarded as the virus of tuberculosis, so their introduction into the human body is necessary for the production of this disease in man. It is obvious, however, that other factors than the virus are necessary, for not everyone exposed to the reception of tubercular bacilli becomes tuberculous. It may well be that scrofula is still to be regarded as that condition of the solids and liquids of the body which offers favorable opportunities for the retention and growth of the bacilli and thus for the production of tuberculosis.

Formad claims that he has discovered structural peculiarities of tissue as a cause for the scrofulous habit, which he regards as synonymous with a predisposition to tuberculosis. These peculiarities are manifested by a narrowness of the lymph-spaces and their partial obliteration by cellular elements. He also maintains that the features are not only of congenital origin, but may be acquired through malnutrition and confinement."

We are reminded by this latter statement of the great mortality among prisoners. The development of tuberculosis in our jails and penitentiaries is a well known fact. The intense suffering caused by shame, humiliation, and confinement amounts in many instances to a sentence to death by tuberculosis—a lingering, cruel death instead of the hangman's rope or the bullet.

To quote again from this writer:

"Those who claim that scrofula and tuberculosis are identical must in the light of Koch's discovery demonstrate the presence of the bacillus in all scrofulous inflammations, and deny the existence of scrofula apart from indisputable manifestations of the activity of the bacilli of tuberculosis. It may be that such evidence will be presented; until it is collected, scrofula and tuberculosis are to be regarded as distinct, though often co-existent.

The scrofulous person is frequently tuberculous, the tuberculous person is usually scrofulous; the non-scrofulous person, however, may die of tuberculosis, while the individual may be scrofulous without containing tubercle.

The actual inheritance of tuberculosis is very unlikely, although this disease is frequently found in successive generations of a single family. The various members of the family are rather to be regarded as furnishing a suitable soil for the growth of the tubercular bacillus, and their exposure to its seed is favored by the existence of tuberculosis in one or more members of the household. The scrofulous condition is still to be regarded as hereditary as well as acquired, and the scrofulous remain as the class to be especially protected from the reception and effects of the bacilli of tuberculosis."

A recent item concerning the heredity of tuberculosis appeared in the *Journal of the American Medical Association*, March 13th, 1897; it is a translation taken from the *Archiv für Kinderheilkunde*, B. H., Vol. VI., p. 328.

"Szego, after a careful study of the subject, reaches the conclusion that the inheritance of tuberculosis is either parasitic or dispositional (perhaps toxic). This heredity does not exclude the possibility of contagion. On the contrary, the predisposed subject furnishes preëminently a susceptible soil. It is difficult to determine which is the predominant factor in the transmission. This may result through infection of sperm or ovule or through the placenta. Involvement of the lungs, of the intestines, of the glands adjacent to the mouth and the nares indicates rather origin by contagion, while tuberculosis of brain, joints, bones and abdominal viscera bespeaks rather a congenital causative condition. The congenital germ of tuberculosis may remain latent in the organism for a variable period of time, and exert its influence only when the general condition of the organism is depreciated.

The treatment of tuberculosis by the injection of normal horse serum is auxiliary to the treatment already employed by our most skilful practitioners. In taking account of some of the more important of the various methods of treatment in use at the present time, we may sum up as follows: *Firstly*, "The Climate Cure," the atmosphere of suitable localities in New Mexico, where there is moderate elevation, dryness and abundant sunshine, and where reasonable op-

portunities for out-of-door life and employment shall make homesickness or mental depression quite unlikely; *Secondly*, Hygiene, systematic attention to bathing, clothing, food and habitation; and *Thirdly*, The therapeutic treatment.

The remedies recommended in the treatment of consumption present an interminable array of useless drugs. Iron and cod liver oil have long been employed; as to the latter, in my own practice I have seldom prescribed it. A recent article in the *Journal of the American Medical Association*, calls attention to a pamphlet by Dr. Arrowsmith, of Brooklyn, on the modern aspects of tuberculosis. His personal experience with cod liver oil has lead him to the opinion that it is very much worse than useless. He has never seen it act beneficially; the more perfectly it is emulsified the more detrimental it becomes.

But in the value of the exhibition of ferruginous preparations there can be little, if any, doubt. In those cases where tuberculosis has been successfully treated by therapeutic methods, iron has been the most valuable remedy. As every one knows the preparations of iron are very numerous, some of them positively harmful, others inert and useless, while a few are capable of being readily assimilated. Of this kind, ferratin is one of the new remedies recommended by the committee of revision for adoption into the new fifth edition of the Russian Pharmacopœia (*Chemiker Zeitung*, 31, 1897). This is an organic iron compound of albumin and tartrate of iron, forming a definite iron albuminic acid; it contains seven per cent. of iron, is readily absorbable, does not constipate and has no untoward effects. On the testimony of its discoverer and others, it is identical with the natural ferruginous element of food, absorbable in the system and stored in the liver and other organs as a reserve iron for blood formation (*Jour. Amer. Med. Assoc*). Lately this preparation has attracted considerable favorable attention not only in Europe but in this country, so

much so that its future success would seem assured.

Modern medical science has developed *Serum-therapy*, which is now one of the most important branches of medicine. Most of us can remember the excitement caused among medical men, as well as that naturally to be expected in the laity, when Tuberculin, the discovery of Koch, was announced. How great the hope that was kindled, and how depressing the disappointment which resulted. A recent editorial in the *Lancet* states, that this indefatigable toiler is still laboring in the same field and that he now claims to have "succeeded in obtaining a preparation 'Tuberculin R,' that has an immunizing and curative effect. Not only was the restoration of diseased organs in tubercular guinea-pigs proved, but he says early cases of phthisis and lupus were without exception materially improved by the treatment. He does not use the word 'cured' until a sufficiently long time has passed without relapse." The new preparation has had no alarming by-effects. The new tuberculin is injected subcutaneously—the initial dose is $\frac{1}{100}$ milligrams, increased by degrees to higher doses.

An item quoted from the *Münchener Med. Wochenschrift* in a recent issue of the *Journal A. M. A.*, states that Niemann claims that he has succeeded in isolating an antitoxin from the serum of young goats that had been inoculated with increasing doses of a tuberculin prepared from a virulent culture of tubercle bacilli. From experiments on guinea-pigs in which tuberculosis had been produced by inoculation he claims to have demonstrated that his goat serum contains an anti-tuberculin. Animals showing tuberculous ulceration at the seat of inoculation, with tuberculous enlargement of the glands were cured by inoculating them with the goat serum, the ulcer healing and the glandular enlargement entirely disappearing. He also obtained good results in the treatment of tuberculosis of moderate severity in human individuals. Under treatment the

general conditions of the patients showed marked improvement, the tubercle bacilli disappeared from the sputum, and the cough and expectoration considerably diminished. High elevation of the temperature rarely followed the injection of the serum, even in large doses, while albuminuria was never observed.

Rightly or wrongly, in the minds of many sensible practitioners a certain dread of possible evil results will continue to intrude. No matter what the high reputation of brilliant discoveries amounts to, tuberculin in any form is suggestive of an active and dangerous element, which might induce an increase in the disease it is supposed to overcome, or even introduce the poison into the system. Such objections cannot be reasonably advanced against the use of normal horse blood serum. I believe that it is possible to greatly improve the methods of general treatment of tuberculosis which are in vogue at the present time by the use of normal horse blood serum. This agent is peculiarly suitable to counteract the tuberculous destruction of tissues; the most reliable investigations have proved that it is an agent which possesses great value in mitigating morbid actions of various kinds. The horse blood serum should be taken from mature animals in apparently robust health, without having been artificially immunized. It is advisable to prepare the serum with a minimum percentage of trikresol to prevent contamination. In Surgeon-General Sternberg's valuable work on immunity in serum-therapy, he quotes from a report from Dr. Paquin, published in 1895, as follows:

"Blood serum of horses seems naturally antagonistic to the germs of tuberculosis, but cannot in its natural state serve in treatment with much good, as it is *too slow*, and it takes enormous quantities of it, too, to produce useful results."

He admits, however, that horse blood serum may be rendered more strongly antagonistic by the treatment of the animals by a proper technique. This authority of the natural antagonism of horseblood ser-

um to the tuberculous poison is valuable in this study, but we take exception to the statement that its action is *too slow* and also that the *quantity required is too large*. We consider that the good results which have been proven in the scientific experiments are sufficient answer to any objection which can be raised.

In the report of the Surgeon-General of the United States Navy, for 1895, a paper is contributed by Dr. F. J. B. Cordeiro, Past Assistant Surgeon, concerning Behring's diphtheria serum, in which appears the following statement: "There is yet another kind of immunity, an innate or species immunity, which renders certain species incapable of acquiring a disease which is deadly in other animals." For instance, dogs are immune to anthrax, and horses to tuberculosis. In regard to this latter statement concerning tuberculosis in horses, Dr. Lieutard, of the Veterinary College of New York, in a recent letter to the writer, states that in his opinion horses are not free from tuberculosis, though it is very rare. Cases are on record where the post-mortem lesion positively proved the nature of the disease, but I believe that where such lesions have been discovered the conditions for the reception of the disease must have been of such an extraordinary nature that the development proved the rule by its rarity. Therefore, before accepting the theory that tuberculosis can be developed in the horse we should need to carefully examine into the histories of these reported cases.

In a recent article by Dr. Spalding, of Boston, in the *New England Medical Gazette*, he states that there are those who believe that the immunizing process in preparing horse blood serum is superfluous in the treatment of diphtheria. He also states that no one has ever yet seen a horse ill with genuine diphtheria, and if so this immunizing process to which it is submitted is quite superfluous. Dr. Burton, of Nantes, takes this ground, and has used the normal non-immunized horse blood

serum in the treatment of diphtheria with as good results as have attended the use of the ordinary antitoxin. We believe that the same theory holds good in regard to the use of horse blood serum in the treatment of scarlet fever, tuberculosis, lupus, and leprosy. In other words, that the quantity required to bring about antitoxic results will not be found too bulky or too slow in its action.

Horse blood serum is a natural antitoxin. In the *New York Medical Times* of recent date, a paper is quoted from Lacruz (*Arch. de Gin. Obstet. y Pediatría*) in which the author states that he has tried the effect of serum from a healthy horse on several children in his wards. Doses of from 3 to 5 ccm. were injected daily and repeated every day for three or four weeks. The serum seems to act as a most powerful tonic, the red corpuscles increase in number, weight is gained and the child visibly becomes stronger. There is no untoward secondary effect, except slight rise of temperature, and some acceleration of the pulse; there is no erythema, and no albumin. The good effects of the injections are quickly manifested, cases of athrepsia in particular are speedily benefited and the cure is maintained. Sixteen cases of chorea treated in the manner described were cured in a period of fifteen days on the average.

The experiments of Dr. Carrisquilla in the use of horse blood serum in the treatment of tubercular as well as in the nervous varieties of leprosy, have been most successful. Dr. Goldsmith has published some interesting items in a recent number of the *Journal A. M. A.* on the treatment of tuberculosis, in which he states that the treatment to be successful must be based on natural law. The soil of growth must be changed together with the destruction of the microbes. Horse blood serum introduced into the circulation of patients suffering from contagious and infectious diseases, does by the process of mixing a healthy antitoxic fluid with the circulatory fluid in the individual counter-

act the march of the disease, sustain and nourish the patient, and in time by its action bring about a cure.

—It is not claimed that this agent is so powerful that it can act absolutely alone, but as the *assistant* of sanitary science, it is probably a most valuable therapeutic agent, and worthy of our most serious consideration.

STRYCHNINE IN ALCOHOLISM.

By J. M. FRENCH, M.D.,

Medical Director, Elmwood Sanitarium for Drug Habitues,
Milford, Mass.

The action of strychnine in removing that "cry of the nerve-cells for alcohol," which constitutes the drunkard's appetite, is direct, positive and well-nigh specific. No other agent is to be compared with it in this respect. Not only does it take away from the inebriate his craving for alcohol, but it tones up his whole nervous system, lifts him out of the slough of despond into which he has fallen, and fills him with a sense of ability and well-being which is far above the maudlin joy of alcohol.

Nor is this action of strychnine in any way at variance with its fundamental and well-understood effects in other cases. Rather, it is in strict accord with all that is known of the basic effects of the drug.

Shoemaker states, in his *Therapeutics*, that "strychnine increases the appetite, stimulates secretion, improves digestion, and exalts the vital powers, improving also sight and hearing. It is a stimulant to the respiratory center, also to the heart and vaso-motor centers. Arterial pressure is raised and the pulse becomes more slow. The functions of the spinal cord are exalted."

H. C. Wood declares that it "is a most useful tonic when there is general relaxation and loss of nerve-power. Clinical experience has abundantly demonstrated the value of the drug in general functional atony and relaxation."

Recall for a moment the physiological action of alcohol, and observe in what a

marked degree it produces those conditions which strychnine is calculated to remove. First stage: Paralysis of the vaso-motor nerves, with flushing of the surface, and increased action of the heart—the so-called primary stimulant action of alcohol on the heart, which is really due to lessened vascular resistance. Second stage: Paralysis of the power of muscular co-ordination and control, usually beginning with the extensors, accompanied sometimes with spasmodic action and vomiting. Third stage: Paralysis of the higher centers of thought and will, leaving the subject at the mercy of his animal nature. Fourth stage: Paralysis of the organic centers of sensation and motion, with complete insensibility, and of continual further failure of the centers of circulation and respiration, which are the last to yield.

Note next the exactness of the antagonism of the two agents in a considerable portion of their actions. Alcohol paralyzes the vaso-motor nerves, relaxes the arterioles, lessens the blood-pressure. Strychnine tones up the vaso-motor nerves, contracts the arterioles, increases the blood-pressure. Alcohol weakens the heart, though by removing obstructions to its action it sometimes brings about more rapid and less controlled movements. Strychnine strengthens the heart, slows its action, and, above all, helps to keep it under proper control. Alcohol paralyzes the cardiac and respiratory centres; strychnine stimulates them. Alcohol diminishes mental activity, and lessens the acuteness of the special senses. Strychnine renders the mind more active, and exalts sensation, both general and special. Briefly stated, strychnine is a tonic and true stimulant, as opposed to alcohol, which is an anæsthetic and a paralyzant.

These considerations afford a solid basis for the use of strychnine in the treatment of both acute and chronic alcoholism. For the tissues of the inebriate are relaxed in every part, paralyzed in greater or less degree, and unable to per-

form their functions properly. Mentally and physically, the drunkard is dull, nerveless, incapable. There can hardly be a better description of a case of acute alcoholism than that of the street gamin, when he says of a drunken man: "He is paralyzed." Not more truly could this be said of the subject of anæsthesia, unconscious under the surgeon's knife. In his moments of comparative sobriety, his paralysis is less evident to the eye, less complete in degree, but no less real. Drunk or sober, this is the essence of the inebriate's condition, that he cannot control himself. His faculties are all in existence, perhaps, but he cannot use them. He has less vigor and endurance, his hands cannot do fine work, or execute delicate movements. His mind is clouded, and neither that nor his muscles obey his will. His moral sense is weakened, no longer clearly perceiving right and wrong, or if perceiving, is unable to control his conduct. Instead of that will-power which is the crowning glory of manhood, the motive force which rules his life is the insatiate craving for alcohol. To this he is an abject slave, and to satisfy it he will descend to any level of shame or disgrace.

Not only are there these disturbances of function, but continuous indulgence in alcoholic drinks induces structural alterations in the various tissues of the body, which find their expression in a variety of diseased conditions, such as congestion, inflammation, and degeneration, involving the nervous system more especially, and contributing materially to perpetuate the desire, and leading to continuance in the indulgence.

It is in such conditions as these—chiefly in combatting functional derangements, but to some extent in lessening even structural changes—that strychnine finds its proper place. By its use all the tissues are revived. As a result of its action every nerve and every muscle are keyed to their highest pitch; the mind acts more readily; the man is raised out of his sordidness and indifference; the world takes

on fresh colors, and life begins to possess a new interest. The feeling of depression and inability gives way to one of lightness and elasticity. The terrible craving for strong drink, that dull, horrible gnawing at the stomach, that fearful, all-gone sensation, which in his previous experience is relieved by nothing but alcohol, little by little grows less, or all at once disappears, while in its place comes a sense of deliverance, and the joy of freedom from bondage.

Dr. L. D. Mason, of Brooklyn, N. Y., in an able article on Aetiology and Therapeutics of Alcoholic Inebriety, in the *Quarterly Journal of Inebriety*, writes:

"Are there any drugs that are specifically beneficial for the treatment of inebriety as such? We would state that drugs that act directly as a stimulant to the nervous system are of value. Strychnia is a type of this class of drugs, and one of the best of its class. Luton, of Rheims, Belgium, was the first to point out its value in alcoholism. Then the Russians used it largely, and it was known as the 'Russian treatment;' and finally, the Americans adopted its use in such cases. Strychnia has proved serviceable as both abortive and curative in acute alcoholic delirium, as well as useful in the more chronic forms of alcoholism."

Dr. Portugaloff, of Samara, Russia, who has been widely quoted as an authority on this method of treatment, expressly disclaims any originality in the matter, but gives credit for the discovery of the value of strychnine in alcoholism to the English and French doctors, Lutton, and Dujardin-Beaumetz. He describes his own method of using it as follows:

"Convinced that all forms of drunkenness are but forms of disease, with perhaps a basis of vice, I have during the past five years treated about five hundred patients, suffering from different forms of alcoholism, entirely by hypodermic injections of strychnine. I prepare the solution by taking one grain of strychnine and dissolving it in 300 drops of distilled water,

and commence by injecting hypodermically ten drops of this solution morning and evening in the vicinity of the liver and stomach. I do not order the patient at once to discontinue drinking. I prefer that he should voluntarily leave it off, and that alcohol should become distasteful to him. It not infrequently happens that I make from one to five injections the first two days without results, but I patiently wait, convinced that in two or three days the desired effect will be produced. If the patient, after two or three days' treatment, voluntarily gives up drinking, and states that he has no desire for it any longer, I continue the injections, but only once a day, in the morning. The total number of injections range from ten to twenty, and decrease in strength from ten drops to five. This is the whole treatment. I freely confess that I have had cases where patients, in spite of daily injections having been continued for four or five days, nevertheless continued to drink as much as ever. In such cases I have discontinued the treatment altogether, but I have always felt sure that if in such obstinate cases the patient could be isolated, and all probability of obtaining alcohol removed—which would be easy in a Home for Inebriates—cure would certainly follow. Then I have cases of relapse. Patients who once a year return to their old bad habits, but who, on such occasions, always come to me for a repetition of the treatment, which invariably sets them right again for another year."

The striking feature of this report is, the positive effects obtained from comparatively small doses of the drug, and brief time of treatment. In the experience of most American physicians, much longer terms are necessary, as well as additional treatment, which can only be given in an institution especially adapted for the purpose.

In the *Journal of Inebriety* for January, 1894, Dr. J. Bradford McConnell reports in detail twenty-five cases of alcoholism treated with strychnine nitrate hypoder-

mically, the dose ranging from one-thirtieth to one-sixth of a grain twice daily for ten days, then once daily for ten days, the highest dose being reached about the third or fourth day, and continued until the close of the treatment. Other remedies were given internally, but not for their specific effect. His conclusions from the results obtained in these twenty-five cases were, that simultaneously with the use of this remedy, the crave for alcohol in inebriates diminishes, and in a few days is completely gone; and through the withdrawal of the poisonous beverages and the tonic effects of the strychnine there is a more or less rapid restoration to sound physical health and mental power.

In an article in the *Medical News*, Dr. William B. Breed sums up his conclusions on this subject in these words:

1. "We have in this drug a remedy that actually, for a period yet undetermined, removes the desire for alcoholic stimulation in the chronic inebriate, and that without the least effort on his part.

2. "A remedy that removes the distress and gnawing at the epigastrium, so common upon the withdrawal of alcohol.

3. "A remedy that tones up the nervous system, allays the insomnia, the flighty and other bad feelings in the head, the mental disturbances and the tremulous agitation and uncertainty of voluntary motion due to the withdrawal of stimulants.

4. "A remedy that brings back the appetite and general physical vigor of the body.

5. "A remedy that temporarily transforms a wholly demoralized creature into a man.

6. "A remedy that is of great value in acute attacks of alcoholism.

7. "Incidentally, a remedy that is an exceedingly good and safe heart tonic.

8. "A remedy that exerts a moral influence upon the patient, giving him what he had before wholly lost, to wit: hope, enthusiasm, self-confidence and courage, where before was despondency, abandonment, and despair; a steady, straightforward gaze, and a bright, youthful expression of the eye, which replaces the shamefaced, sneaking, apologetic air of total depravity in the chronic inebriate.

9. "Not a remedy which will oblige a man to abstain from drink if he does not want to."

Reports of the same general nature as those above given have appeared in great numbers in the medical journals for the past few years. I have myself treated about seventy cases during the past five years, on the same general plan, strychnine being the most important drug administered, though forming only a part of the general treatment. The nitrate of strychnia was given in most cases, both hypodermically and internally, but sometimes internally only, and in one case hypodermically only. The daily dose varied from one-sixth to one-fourth of a grain, according to the character of the case. The duration of treatment ranged from three to eight weeks, four weeks being the usual period. My results agree in general terms with those of the writers already quoted. In no instance in my practice of medicine have I obtained results more promptly and uniformly satisfactory than in these heretofore intractable cases. After a variable length of time, usually from a day to a week, the desire for liquor ceased, and the nervous system, mental faculties, and apparently even the moral nature, responded rapidly to the treatment. In some few cases, however, as noted by Postugaloff, the appetite was too strong to be thus easily overcome. As most of the patients were treated in a sanitarium, however, it was easy to supplement the use of the strychnine by such other measures as proved efficient in breaking up the drinking, when the strychnine promptly completed the work by removing the desire.

My conclusions are, that strychnine is the most valuable single drug in the treatment of chronic alcoholism, and that it is possible by its use alone in most cases to abolish the desire for drinking. As to the permanency of this result, testimonies differ, and it is yet too early to settle the question finally. My experience with patients has led me to the belief that in nearly all

cases of relapse, the return to drink is brought about by some other cause than the return of appetite. It is a very common idea that if a man has been treated for alcoholism and begins to drink again at any time thereafter, it is proof that he was not cured. That this is not a fair conclusion, is evident when we consider, first, that we do not reason in this manner with relation to any other disease; secondly, that a man has no craving or appetite for liquor when he begins to drink, and yet a considerable percentage of men cultivate that appetite and become drunkards; thirdly, that the same causes which led him to drink the first time, may well do so the second time, even though the unnatural craving has been removed; and fourthly, that during his period of drunkenness, he has of necessity formed habits, associates, and modes of living, which must inevitably tend— independent of the taste or effects of liquor—to pull him back into the gutter, unless prevented by a complete change of life, or antagonized by a strong effort of the will power or the moral nature.

If, however, we consider only the fact of relapse, without any reference to the cause, I find that out of fifty cases in which more than one year has elapsed since treatment, fourteen had relapsed at the end of that time, thirty-two remained sober, and concerning four I had no certain knowledge. As a longer time elapses, the number returning to drink will undoubtedly increase.

TREATMENT OF PULMONARY TUBERCULOSIS.—Dr. Bertola has treated nineteen patients with the serum of Maragliano. From his observations he concludes that (1) it gives rise to no general or local reaction; (2) it is well borne and without ill effects upon heart or bloodvessels; (3) it lessens and subdues fever; (4) it improves the general condition and increases, in nearly all cases, the body-weight; (5) it possesses a specific action upon the tuberculosis, but should be administered for a long time.—*Therapeut. Monatshefte*, 1897, Heft 1, S. 37.—*Amer. Jour. Med. Sciences*.

GOUTY AND RHEUMATIC AFFECTIONS OF THE EYE.*

By SAMUEL G. DABNEY, M.D.,
Professor of Physiology and Clinical Lecturer on Diseases
of the Eye, Ear, Nose and Throat in the Hospital
College of Medicine, etc., Louisville, Ky.

At the recent congress of the American Physicians and Surgeons, a series of papers on gouty and rheumatic affections of the eye were presented, the session being under the auspices of the American Ophthalmological Society.

Lesions of the retina and optic nerve were considered by Dr. Chas. S. Bull; the etiological factors of glaucoma by Dr. S. O. Richey; the association of cataract with the gouty and rheumatic diathesis by Dr. S. D. Risley; similar affections of the uveal tract by Dr. Robert Satler, and of the cornea, conjunctiva and sclera by Dr. R. E. Reeves.

Dr. Bull cites first the effects of gout upon the vascular system, namely, high blood pressure in the arteries, hypertrophy in the left ventricle, and hard incompressible arteries undergoing atheromatous degeneration.

It is instructive to note that of the five cases of gouty inflammation of the retina which he had presented in a former paper, in 1893, four had died, two of them certainly of cerebral hemorrhage. Of ten patients seen since 1893, in his experience, three have died, one from pneumonia and two from cerebral hemorrhage. If we may judge from these rather limited statistics, retinal lesions in gout would seem to be of very serious prognostic significance.

As somewhat *à propos* to this subject, I recall a case reported some years ago by one of my colleagues, of a gentleman who consulted him for a simple sub-conjunctival hemorrhage. No ophthalmic examination was made as the patient complained of no symptoms suggesting intra-ocular disease, but a few weeks later the

* Read before the Louisville Clinical Society, and contributed exclusively to the AMERICAN THERAPIST.

gentleman died suddenly from a cerebral apoplexy.

Among the conclusions which Dr. Bull draws are, that the changes in the fundus are always bilateral, that the retinal disease once established does not improve, though in favorable cases the existing vision may be maintained, and that the most marked features in the ophthalmic picture are the angio-sclerosis in the vessels of the retina, and the peculiar yellowish granular exudation around the posterior pole of the eye, generally having the macula intact until late in the disease.

Though I have myself seen several cases of gouty disease of the retina, I have seldom, if ever, observed such exudates as he described, and certainly I have seen the gouty retinitis and retinal hemorrhage confined to one eye. It is true, the fellow eye may have become affected at a subsequent time.

In illustration, a case may be mentioned of a lady, seventy years of age, whom I have recently been treating in conjunction with a fellow member of this society. Her vision is reduced to about one-third of the normal, and the ophthalmoscope shows several small hemorrhages near the vessels, and irregular dilatations in the arteries. There has so far been no inflammatory exudate. She suffers greatly from headaches and dizziness, is of stout, plethoric habits, and reveals no organic disease of the heart or kidneys, though uric acid is found in abundance.

Perhaps some of the obscure exudative inflammations of the choroid and retina are attributable to the same diathesis, but in many of these cases the prognosis is more favorable than Dr. Bull's figures would indicate.

The importance of gout and rheumatism as pre-disposing causes of glaucoma, is being more generally recognized. In the last few months I have seen several very suggestive cases. One of them, a lady, sixty years of age, had glaucoma absolute with consequent cataract. Both legs were

bent from rheumatism so that she was unable to stand.

In another case of a gouty patient, a subacute glaucoma developed in a lady who already had immature senile cataract. Here the remedy for glaucoma was fortunately a preliminary operation for cataract, and iridectomy was attended with good results.

We may entertain the hope that, recognizing the importance of this diathesis may enable us to prevent some cases of glaucoma, or, it may be, to arrest the disease in its incipency.

Of the paper presented by Dr. Risley on the association of cataract with rheumatism and gout, I can say but little, since except in the above mentioned case, I have never observed a well-marked connection.

The importance of these diatheses in inflammations of the uveal tract, is universally recognized. In my own private practice the majority of cases of iritis are, I think, rheumatic, while most of those I see at my clinic are of syphilitic origin.

In the absence of other symptoms, there is, as Dr. Satler says, nothing distinctive which would enable us to recognize certainly the iritis or irido-choroiditis of gout or rheumatism. The rheumatic affections, however, as a rule are more painful, and, I think, oftener demand leeching and similar remedies.

It was somewhat surprising to me to find the essayist declare that the most frequent lesion is an insidious variety of exudative choroiditis often necessitating enucleation. Perhaps he was not correctly quoted; I have never seen this disease. On the other hand, it seems strange that the author could find no evidence that iritis and other affections of the uveal tract occur with acute outbreaks of gout or rheumatism. I have seen acute irido-choroiditis associated with violent articular rheumatism in several cases. In two of them the vision was so reduced that fingers could not be counted. Both recovered with perfect sight. In the treat-

ment of one of them, a middle aged lady, I had the valued coöperation of Dr. Cottell, and another was a physician whose case is well known to many members of this society.

Of the scleral affections due to gout or rheumatism, the most common is the so-called *episcleritis fuga*. These attacks of localized inflammation in spots near the cornea last from a few days to a week or more, and are attended by pain, lachrymation and sensitiveness to light. They are often rheumatic, and in the last few weeks I have seen a case presenting at one and the same time several distinct evidences of this diathesis. The patient was a full blooded, plethoric man, between fifty and sixty years old, who, besides the episcleritis, had a subconjunctival hemorrhage and synechiae from an old iritis. Incidentally I may mention that he was the only patient who ever requested me to bleed him, saying that in a former attack, a great many years ago, in western New York, he had derived great benefit from venesection.

In the discussion of these papers, Dr. Da Costa, of Philadelphia, stated that four-fifths of all cases called chronic rheumatism were not rheumatism at all, and that affections of the eye ascribed to this form of the disease would in future be so reduced that very little would be left of them. The pathology of gout, he said, was better understood than that of rheumatism. He doubted the existence of such a disease as rheumatic gout.

In rheumatoid arthritis, uric acid is not found and the disease is not connected with gout or rheumatism, he declared. Moreover, he had never seen an affection of the eye connected with this disease. He had observed in acute rheumatism various ocular inflammations, such as conjunctivitis and iritis, and he had seen similar conditions in acute outbreaks of gout and frequently when no acute outbreaks existed.

DISCUSSION.

Dr. P. F. Barbour:—It does not fall to my lot to see many cases of the character

referred to by the essayist, but I have recently had a case of chronic rheumatism in a patient who developed considerable pain about the eye. There was a great deal of edema of the optic disc which, I am convinced, was due to the rheumatic condition of the patient. There was some pain, mild photophobia, etc., and while there was not great lessening of sight, at the same time the patient was unable to read for any length of time without suffering violent pain about the eye and over the forehead. Sodium salicylate, given in large doses frequently repeated, relieved the condition almost entirely within a week; at the same time a strict dietary was prescribed for the patient, which may have had something to do with his recovery; his bowels were thoroughly cleansed and all the emunctories gotten in as good condition as possible.

Dr. William Cheatham:—I rise to commend the paper, and to say that I see a great many cases of rheumatic affections of the eye. I remember the case referred to by Dr. Dabney, which was seen with himself and Dr. Ray, a young lady, the daughter of a physician, who has lost all central vision, both maculae being involved, and I think the whole trouble was gouty or rheumatic. I believe that a great many cases of glaucoma are gouty or rheumatic in origin, further that all cases of the so-called serous iritis (which name, I think, is incorrect, because the whole uveal tract is always involved), are also rheumatic or gouty manifestations. We have also a choroiditis in most cases. I have recently written a short paper on the subject of serous iritis making some suggestions as to corrections in the nomenclature of diseases of the eye as regards what the authorities have heretofore called "*Iritis serosa*." My idea is, that in all cases of so-called serous iritis, in which the inflammation is more serous than plastic, there is involvement of the entire uveal tract, and not of the iris alone, therefore it should not be called "*Iritis serosa*." The main point about these in-

inflammations is their long continuance, and frequent relapses, which is a strong argument in favor of their being rheumatic or gouty in origin. I think I preceded Dr. Bull in reporting a series of such cases. At that time I saw a great many cases, and made a report of them calling attention to the condition of the eye, the urine, etc., in connection with rheumatism and gout, which, I am sure, was at least a year or two before Dr. Bull's paper was published.

Dr. I. N. Bloom:—I would like to ask whether in speaking of the gouty diathesis, if the condition is meant in which uric acid appears in the urine, when no other symptoms appear. In other words, if in examining the urine you simply found the yellow crystals, the typical uric acid crystals, with no other changes in the urine, would you call that the gouty diathesis?

Dr. S. G. Dabney:—Yes, that as I understand is the explanation.

Dr. I. N. Bloom:—In the case Dr. Cheatham has mentioned, I examined the urine frequently, and found this condition of affairs—there were the crystals of uric acid, as well as calcium oxylate. I examined the urine at least twelve times, and probably eight times I found uric acid in decided excess, and the remaining four times, especially after ill-regulated and careless diet, I would find no uric acid, but an abundance of calcium oxylate. These two conditions often exist conjointly.

Dr. S. G. Dabney.—In regard to the case reported by Dr. Barbour: Photophobia is not usually a symptom of edema of the optic disc. The condition found by means of the ophthalmoscope would hardly correspond to the symptoms described. It was doubtless a rheumatic affection of the eye, but we frequently find inflammations of the optic nerve without any extreme sensitiveness to light.

The case referred to by Dr. Cheatham is certainly an interesting one, the young

lady whom I had the pleasure of seeing with him, Dr. Ray also being present. I do not think, however, that it comes under the category described by Dr. Bull; she had one eye only affected, the other eye remaining unaffected, with good vision. The cases described by Dr. Bull of exudative trouble did not recover good vision. Dr. Cheatham's remarks in regard to serous iritis being rheumatic or gouty in origin are interesting, and these cases are always serious. I believe, however, that I have seen cases of serous iritis which were not rheumatic or gouty manifestations. There was a serous inflammation of the iris and choroid, with a little deposit on the posterior surface of the cornea. These are troublesome cases to treat and much more serious than the painful plastic forms with tendency to posterior synechiae. We often do not get much benefit from any form of local treatment. I have one case under observation at the present time, a young girl fifteen years of age, who has a typical serous iritis. She gives no history or symptoms of rheumatism or gout. I have examined the urine, not, however, for uric acid, and I will have the test for this made.

THE TREATMENT OF INTESTINAL TOXEMIA.—

Dr. Mathew D. Mann, in searching for an intestinal antiseptic, believes that naphthalin has met with the most favor. Bismuth subgallate, as well as nearly all of the agents which have been tried, has disappointed. Benzozol is worthy of a more extended trial. Practically, hydrochloric acid seems to give satisfaction, and in support of its use is the theory of Simon that the free hydrochloric acid of the gastric juice keeps intestinal putrefaction within limits. Very careful regulation of diet and attention to general surroundings, environment, and hygiene of the individual are the best agents; these include the proper ingestion of water, the use of massage, exercise, fresh air, and sunshine.—*Amer. Jour. Med. Sciences.*

A REPORT OF A CASE OF PURPURA HEMORRHAGICA.

By HIRAM H. HOWE, M.D., Sand Fork, O.

James McC., aged 25, married: Some remote history of tuberculosis maternally, but none immediate, his mother still living and in good health; father died of paralysis. During the summer and fall of 1888 he was treated for four months by the writer for neurasthenia, during which attack there was functional disturbance of almost every organ of the body, and at that time there were some purpura spots and quite a tendency toward uncontrollable hemorrhage. Since that sickness he has never been strong. Has a chronic nasopharyngeal catarrh, chronic gastric catarrh and functional disease of the heart. In April, 1893, he suffered with an attack of remittent fever.

On the morning of Dec. 11th, 1896, the writer was called to see him for the first time in the sickness which serves for a subject of this report. Over the arms, legs and trunk there appeared quite plentifully the characteristic eruption seen in purpura hemorrhagica. The spots were of small size but very distinct. He complained of severe prostration, a bad headache, had constipated bowels, badly coated tongue, complete anorexia, pulse 110, temperature 102.4° F. The heart was laboring with great force and could be heard any where over the chest.

Added to these pathological phenomena, he was every minute or two, ejecting a mouthful of blood, which could be seen oozing from the gums just at the neck of each tooth.

Diagnosis, Purpura Hemorrhagica. He received:

- R. F. E. Ergot (assayed)..... ʒij.
 Tr. Opium.
 Aromatic Sulphuric acid āā.... ʒss.
 Glycerin.
 Water āā..... ʒss.
 M. Sig: Teaspoonful in water every 3 hours.

This mixture was alternated with fifteen drops Tr. Muriate of Iron in plenty of water.

Normal liquid aconite was ordered in drop doses every half-hour for four doses, then every three hours. The bowels were opened by calomel, soda and podophyllin, followed by sulphate magnesium. A mouth wash made from tablets containing zinc sulphate, golden seal, alum, tannic and boric acids was ordered.

Dec. 12.—The temperature has fallen to 100° F. and the pulse is down to 90; the bleeding from the gums still continues, though thought to be some less. During the night bloody urine began to be passed and by the afternoon of this date micturition is frequent and large quantities of almost pure blood are being passed. Twenty drops of turpentine in emulsion was ordered every four hours, and twenty grains of gallic acid and two drops of the German tincture of digitalis were added to each dose of the ergot and opium mixture.

Dec. 13.—Patient feeling much better, the bleeding from the gums has nearly ceased and the urine is clearing up. A test was made for albumen at this time which gave negative results except a mere trace, thought to be due to the blood the specimen contained.

Dec. 14, 15 and 16.—Patient still improving; some trivial changes were made in the treatment on the 16th and the patient was left to be "heard from" if necessary.

Dec. 17.—A messenger came, saying that my patient was bleeding profusely from the mouth and nose.

The same treatment as outlined above was again taken up at as short intervals as possible. The patient was left at 11 A.M. with the assurance that I would be with him again as early in the evening as possible. I reached his bedside at 5 P.M. and found him rapidly approaching a state of collapse.

The blood was pouring from the left nostril in a continuous stream and every minute or less a large mouthful was ejected. The mucous surfaces were all blanched so far as could be examined and it was evident to every one that some-

thing must be done to arrest the flow of blood or the patient would die. I had with me at this time a sample vial of Ergotole—a preparation of ergot prepared by Messrs. Sharp and Dohme, Baltimore.

I quickly drew into the hypodermic syringe twenty minims and injected it into the arm. This was followed by strychnine sulphate, one-fiftieth grain.

Most things for the control of hemorrhage that I had ever heard of were given a trial, including atropine and nitroglycerin. Local measures comprising hot applications, ice, and astringents were tried, all of which seemed to be of no avail. As a last resort the posterior nares were plugged. This controlled the epistaxis just while the absorbent cotton plug took up the blood, and then it came again in the same continuous stream.

At this time the patient began to vomit, and with the contents of the stomach came large quantities of dark blood.

The blood that was ejected from the mouth and ran from the nostril remained in a fluid state. No clots were formed.

When the vomiting began, all medicines by the mouth and all local measures were stopped, except small pieces of ice, which were allowed to dissolve in the mouth. An ice bag was placed over the stomach, the lower bowel was cleaned out by an enema, and this was followed by a normal salt solution which was well retained. The patient was at this time without a pulse at the wrist, except occasionally when a mere flutter could be detected. He was conscious, however, and although he seemed aware of his condition, he was cool and collected, and expressed his unshaken confidence in his physician when the matter of council was under discussion.

The ergotole was now given in a thirty minim dose hypodermatically, and to each dose was added two drops of the German tincture of digitalis. The dose of strychnine was now doubled, gr. $\frac{1}{32}$, and given hypodermatically every second hour, thus alternating every hour with the ergotole and digitalis. Meantime the

patient was kept as quiet as possible and surrounded with hot water bottles, and kept well covered with blankets. A messenger had been dispatched to the nearest drug store, twelve miles away, for more ergotole, and the result was awaited by all with great anxiety.

By midnight the vomiting had ceased, and it was thought that the hemorrhage from the mouth and nose was possibly a little less.

By 2 A. M., the strychnine and digitalis, together with the saline injections, which had been given hourly, had brought a perceptible pulse again, and it *was now noticed that the blood had begun to form a clot in the nostril.*

From this time on the symptoms were all brighter and by 5 A. M. of the 18th, hemorrhage had entirely ceased, and a large clot had formed in the left nostril, completely filling the entire nasal cavity on that side. This clot was allowed to remain *in situ* for forty-eight hours, when it was removed, and the cavity douched with a normal salt solution for cleansing. On the morning of the 18th, the ergotole was dropped down to twenty minims every 3 hours, and the strychnine reduced to gr. $\frac{1}{64}$, and allowed to alternate with the ergotole and digitalis.

The patient took hot milk and an egg-nogg at 6 A. M., and finally passed a very comfortable day.

From this time on the history of the case was uneventful and improvement quite slow. On February 20th, there was a relapse, or rather another attack, at which time all the phenomena were again observed as detailed above. The hemorrhage, however, at this time was limited to the gums. No time was lost now experimenting, and the hypodermatic use of the ergotole was at once resorted to, and although the hemorrhage from the gums was quite as bad as at the beginning of the former attack, and some blood was observed mixed with the mucous discharge from the nose, in less than twenty-four hours it was well under control, and

by the evening of the second day had entirely ceased.

Owing to the fact that members of the patient's family considered the disease of a local character, because the hemorrhage always began in the gums, the patient was, soon after the subsidence of this last attack, placed under the care of a dentist who is also a physician, and as a consequence passed from under the observation of the writer.

I have learned from a reliable source, however, that though he is still taking treatment, now six months since the first attack, he has had no more hemorrhages.

In concluding the report of this interesting case, the writer desires to call attention to the fact that the ergot and ergotole were given with a view of producing an increased action of the vaso-motor nervous system, and thereby causing a contraction of the arterioles (Bartholow). It will be observed, however, that during the day and night of the patient's exhaustive hemorrhage there was no improvement until the blood began to clot, and as the clot gradually formed in the nostril the hemorrhage gradually ceased.

Bartholow states in his work on *Materia Medica and Therapeutics*, that "the changes produced by ergot in the composition of the blood, if any, are at present unknown."

Is it not justifiable to presume that inasmuch as the blood was observed, in this instance, not to form a clot, and that after the ergotole was given a length of time, it then did clot, that the ergotole produced some chemical change in the composition of the blood?

It will be remembered that the strychnine and digitalis were the only other drugs being used at the time the clot began to form, and the writer believes that there is no such chemical power ascribed to either the strychnine or digitalis.

EUCAINE is now used for tooth extraction. It is said that a three or four per cent. solution is sufficient to produce local anesthesia when injected into the gum. Some dentists use as high as a ten per cent. solution, although this is unnecessarily strong.—*Practical Medicine.*

SALIPYRIN IN PELIOSIS RHEUMATICA.—

Muhlbauer records three cases (*Daily Lancet* from *British Medical Journal*) of this affection in which salipyrin was used with great benefit.

The first patient was a woman aged 56, who after being unwell for a week had a violent rigor followed by pains in the left knee and ankle. Next day the typical spots appeared on the extensor surface of each joint, and the temperature fell from 101° to 90° F. The pain, however, remained, resisting large doses of antipyrin, sodium salicylate, and phenacetin; they disappeared, however, "like magic," under the influence of salipyrin.

The second case was that of an anemic woman aged 27, who was suddenly seized with severe pains in both knees. The lungs were normal, there were cardiac and venous bruits, and the spleen was swollen; on the extensor surfaces of both knees were numerous petechial ecchymoses. These were also present on the outer side of the right ankle, which was much swollen. The temperature was nearly 102° F., and remained up, the pain also persisting after the spots had faded. Quinine caused a temporary fall of $2\frac{1}{2}^{\circ}$ F., but both fever and pain were at once terminated by the use of salipyrin.

The last patient was a sturdy laborer aged 34, who was suddenly and without apparent cause seized with violent pains in the right knee and hip, which were followed by numerous petechial spots in those parts. All the symptoms disappeared after the administration of 150 grains of salipyrin, which the patient took in a single dose. The author concludes that peliosis rheumatica is a definite clinical entity, not merely a variety of purpura or of articular rheumatism. As the heart was normal in at least two of his cases he considers there is no ground for regarding the hemorrhages as due to cutaneous embolisms; they are merely extravasations from the capillary network of the skin.

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PUBLICATION OFFICE, 73 TO 79 FULTON ST., NEW YORK.

Address all communications to

THE AMERICAN THERAPIST,

P. O. Box 1170.

New York City.

Vol. VI.

JULY 15th, 1897.

No. 1.

Editorial.

JUSTICE TO MEDICAL BENEFACTORS.

Dr. JAMES ROBIE WOOD is publishing a series of papers on The Probable Future of Therapeutics in the *Times and Register*, of Philadelphia, which afford excellent points for study and consideration. The following eloquent chapter on "Ungrateful Experiences of our Benefactors" states facts so tersely, and castigates sham and imposition so aptly and deservedly, that we quote it with full acquiescence and commend the sentiment unreservedly:

Doctor Samuel Johnson was present at a large tea party when Master M., who had been plaguing several of the guests, said to his mother that he would be good if she would give him an apple.

"My dear child," said the parent, feeling herself in the presence of a great moralist, "you ought not to be good on any consideration of gain, for virtue is its own reward." You ought to be good disinterestedly and without thinking of what you are going to get for it."

"Madame," said Doctor Johnson, "you are a fool; would you have the boy be good for nothing?"

This aptly applies to recent utterances of persons whose peculiar interpretation of medical morality makes no distinction between dishonorable practice and common justice.

Some selfishly demand that the results of the most laborious work of men of brains and originality shall be freely given for the use and profit of physicians, without other compensation than honorable mention, and even this empty honor is often rendered only under the compulsion of public opinion. In the words of Sam Johnson, such fastidious moralists insist that human benefactors shall be "good for nothing!"

For many years scores of able, painstaking and indefatigable scientists in Europe have given their best energies for the advancement of medical knowledge. In some cases these men have resigned lucrative practice in order to devote mind, heart and soul wholly to their noble vocation.

Of these, one to whom the world already owes a debt of perpetual gratitude has recently offered to the profession a new tuberculin. He has clearly and minutely explained every step in its preparation, and he very properly proposes, instead of permitting Tom, Dick and Harry to destroy its usefulness and his own good name, that it shall be correctly prepared under his personal supervision by certain eminent chemists. For this grievous sin these medical pharisees cry out in holy horror: "Koch & Co."

Surely there must be a Zulu in the jungle!

Possibly some extensive drug and serum producers are not averse to continue reaping great profits, as they have in the past, from medical brains which are seldom, if ever, paid for, except perhaps by an occasional unremunerative "thank you." What wonder is it that they and their satellites are deeply offended and morally shocked when one of the ablest medical men of the age presumes to ask for a slice of his own bread. For this heinous crime they infamously endeavor to associate his glorious name with the lowest of patent medicine venders.

After what Pasteur, Koch, Behring and the forgotten isopaths have done for us

we should hiss down such surly thanklessness and teach these cavilers that such "ingratitude is treason to mankind."

If our desire to benefit the sick is earnest, and this new tuberculin is proved to be valuable, let medical men unite to persuade the central government at Washington, or their individual States, to award several hundred thousand dollars to Koch for the free use of his tuberculin for the benefit of Americans who are too poor to pay for it.

Why should we permit our sick to depend upon the almost boundless charity of the German Empire, which so generously rewards brains to sustain science, while our own Government does comparatively little for science or art?

Current Literature.

SPARTEINE SULPHATE IN SURGICAL ANÆSTHESIA.—Dr. Gilbert Geoffrey Cottom calls attention to the facts that in chloroform-anæsthesia (1) fatal cardiac syncope occasionally occurs during the initial stages of anæsthesia, and (2) in prolonged operations upon debilitated subjects, marked depression, shown by diminution of pulse-volume and increased rapidity of beat, is of comparatively frequent occurrence. Digitalis, alcohol and strychnine have been used with varying success, not sufficient to justify their habitual use. From a study of seven cases reported and of others the author concludes that (1) in sparteine sulphate, administered hypodermically before the commencement of anæsthesia, in the dose of one-tenth of a grain, repeated according to the nature of the operation and the condition of the patient, we have a safe, efficient and prompt heart-stimulant in chloroform-narcosis. (2) It is not necessary to combine it with morphine or to use it in larger dosage than specified above. (3) Other things being equal, there are less shock and prompter reaction with its use.—*Therapeutic Gazette*, 1896, No. 11, p. 721.—*Amer. Jour. Med. Sciences*.

THE TREATMENT OF TUBERCULOSIS.—Dr. John William Moore believes that milk, eggs, butchers' meat, and fish should form the staple food for phthisical patients. Should the appetite flag, nourishing light meals should be given at shorter intervals than in health, the invalid being sometimes fed as a fever-patient. Cod-liver oil should be regarded rather as a food than as a medicine. Calcium chloride is a drug of extreme value not less in the preventive than in the curative treatment of phthisis. Fluid extract of condurango in thirty-drop doses in water relieves the distressing dyspepsia. Vomiting is often relieved by swallowing a cocaine-tablet. Salol and guaiacol carbonate are among the antiseptic remedies which do good in the diarrhea.—*Therapeutic Gazette*, 1896, No. 11, p. 727.—*Amer. Journ. Med. Sci.*

TREATMENT OF OPIUM-POISONING BY POTASSIUM PERMANGANATE.—Dr. William Ovid Moor points out that atropine, cocaine, veratrine, pilocarpine, aconitine, caffeine, hyoscyamine, hyoscine, and phosphorus treated by the permanganate solution give rise to no reaction. Entirely otherwise is it with opium and its alkaloid morphine. After reporting his personal experience of antagonizing one-half grain of morphine by seven grains of the permanganate in eight ounces of water taken immediately after, he advises the use of this antidote, subcutaneously in from $\frac{1}{6}$ to 1 per cent. solution, in severe cases of ether- and chloroform-poisoning; asphyxia from illuminating gas, drunkenness, laryngeal obstruction; and in uremia, eclampsia, and similar cases, in addition to the ordinary methods. More than ninety instances of its successful use in opium-poisoning have been reported. These indications are offered: (1) Internally, seven or eight grains in diluted solution, to antidote the opium or morphine in the stomach. (2) To neutralize morphine which is returned to the stomach from the circulation, one grain in solution, frequently repeated. (3) As a physiological antidote, subcutaneous injection of 1 per cent. solutions.—*Therap. Wochenschrift*, 1897, No. 7, S. 147.—*Amer. Journ. Med. Sciences*.

BENZOSOL AS AN INTESTINAL ANTISEPTIC.—From *Therapeutic Progress* (July, 1897) we quote these extracts from reports, confirming the conclusions of our own contributors in recent issues of this journal:

Dr. C. R. Robins, Richmond, Va., says: "I use the benzoyl-guaiacol (benzosol) with very good results as an intestinal antiseptic in cases in which flatulence is a marked feature. It is easy to take, being tasteless, does not irritate the stomach, and as it is insoluble in the gastric juice, dissolving slowly in the intestinal secretions, exerts marked antiseptic action. Its elimination by the kidneys takes place without apparent irritation of those organs. It has in my hands done very satisfactory work."

In speaking of the action of benzosol as an intestinal antiseptic, Dr. C. M. Miller, Richmond, Va., says:

"In the intestinal disturbances of children, especially during the hot season, I have obtained very good results from the use of benzosol. Its freedom from unpleasant taste makes it easy of administration. It contains no irritating cresol bodies, and is not affected by the gastric juice, hence patients take it readily and stomachic irritation is prevented. Dissolving as soon as the intestine is reached it stimulates secretion, relieves flatulence and destroys or renders inert the toxic products of fermentation and putrefaction. An important advantage is that no renal irritation is set up and the diarrhea is controlled. I consider it a very useful agent in the treatment of the intestinal fermentation of children."

ACETANILID POISONING.—Dr. Irving M. Snow reported (*Archives of Pediatrics*, June, 1897, transactions of the American Pediatric Society), an undoubted case of acetanilid poisoning in a newly-born infant by absorption from the umbilical wound.

The patient was the second child of a physician, born April 20, 1896, after a normal labor. It was suckled by its mother, and showed every evidence of a perfect development and vigorous physique. The umbilical cord was detached on the seventh day, and as there was some discharge upon the stump, the father

dusted the naval with crystals of acetanilid, using about sixty grains of the drug once. Up to the end of the ninth day the child thrived in the most satisfactory way, but during the following night it seemed languid and would not nurse. About 7 A. M. April 30th, the father examined the baby and noticed that it was very cyanotic, presenting a very vivid contrast to its usual color, the child being of a blonde, exceedingly fair complexion.

In addition to this lividity the baby had a very pinched expression, was weak, apathetic, breathing rapidly. The cyanosis steadily increased, and I saw the child at noon. It was plump, well formed. Its face, lips, fingers, toes, in fact the whole of the skin and visible mucosa were of a dark blue color like a subject in the most extreme stage of asphyxia. The lividity was intensified by the child's occasional crying. The rectal temperature was 99°, respiration, 60, pulse, quick and weak.

Having no thought of any drug intoxication, we considered the cyanosis might be due either to congenital heart disease, atelectasis pulmonum or sepsis. The heart was carefully auscultated. Its action was rapid and feeble, but the valvular sounds were clear, with no suspicion of a murmur at the apex or at the aortic or pulmonary cartilages. Air entered all parts of the lungs. There were no râles or areas of silence.

The naval was next examined. The cord had fallen off three days before, and the umbilical hollow was filled with acetanilid. This powder was wiped off, and beneath was a dry, granulating surface, showing no evidence of inflammation or suppuration.

The pupils were normal, there was no sweating, and the child was conscious. The vigilant grandmother had kept the extremities warm by wrapping them in hot flannels. Our patient seemed to be in an exceedingly perilous condition. Poisoning from acetanilid was diagnosed, and oxygen, whiskey, and digitalis were administered. No improvement occurred for about ten hours, the child being limp, apathetic, too exhausted to nurse. Late in the evening it swallowed a little breast milk, and after twenty-four hours slowly rallied.

The cyanosis lasted seventy-two hours, or increased for about ten hours, was stationary for fourteen hours, and then

slowly subsided and was succeeded by a slight, transitory jaundice.

No effect upon the cyanosis was noticed from the oxygen inhalations. The acute impairment of function passed away only after the drug was eliminated. During the illness the functions of urination and defecation were normally performed.

The severity of the toxæmia may be inferred by the rapid emaciation, there being a loss of one pound, fourteen per cent. of the weight, in three days. Not until the fourth day did the child regain its former strength and disposition. In all probability if the absorption of the drug had continued the little patient would have succumbed.

It is interesting to note the long interval, sixty hours, between the application of the acetanilid and the appearance of symptoms. This was perhaps owing to the relative insolubility of acetanilid in most fluid.

After quoting pertinently from various authors, and relating several additional cases, the author concludes :

"From the cases quoted, it is evident that acetanilid, undiluted, should be discarded in the surgery of young children, and is especially dangerous when used as a dressing for the umbilicus of the newly-born. If caution be not exercised, the surgeon, on some more or less important occasion, may have the results of his skill offset by poisoning from his anti-septic."

ON THE ACTION OF ARSENITE OF COPPER IN THE ACUTE INFECTIOUS GASTRO-INTESTINAL CATARRHS OF INFANTS.—H. Kruger (*Allgem. Medic. Central-Ztg.*, 1896, lxv. 694,—*Pædiatrics*) reports a number of cases in which the preparation had a wonderful effect. In a child nine months old, suffering from diarrhea and vomiting, with an emaciated body and a senile face, cold skin and dull eyes, the least nourishment was either vomited or passed undigested through the intestinal tract. A 0.001:100 solution of arsenite of copper was given in teaspoonful doses every ten or fifteen minutes. Besides this a teaspoonful of iced milk was given every half hour. The child improved wonderfully, and the

following day had recovered from the most dangerous symptoms; the vomiting had at once ceased, and the diarrhea was checked soon after. The favorable action of the copper in this case induced him to try it still further, and he later prescribed it in powder form with sugar of milk, ordering 1-500 of a grain every hour. Of the many cases treated by him he reports three, in which the action was marvelous, and two cases which died from extreme exhaustion, although the arsenite of copper benefited both the vomiting and diarrhea.

The action of the remedy is undoubtedly that of a bactericide, as is shown by the rapid improvement in the general condition, and the prompt cure of the acute gastro-enteritis. In more chronic cases the results were not quite so satisfactory. The bactericidal power of the drug must be enormous, for in most cases 1-60 of a grain in twenty-four hours was sufficient to relieve the dangerous symptoms, and rarely was it necessary to give more than twice this amount, and never more than three times during the course of the disease.

PROF. R. KOCH'S FURTHER RESEARCH ON TUBERCULIN.—No one conversant with the thoroughness of all Prof. Koch's work will have been surprised at the announcement that, undaunted by the comparative failure of tuberculin as a remedial agent, he should have been engaged, during the seven years that have elapsed since he made his discovery known, in endeavoring to determine the causes of its failure and to obtain a product which should be free from the drawbacks of the glycerine extract. For the details of the method which he at length arrived at and the ingenious processes it embraces we may refer to the account given by our Berlin correspondent. Suffice it here to say that they aim at separating the bacillary substance into two components, one of which, containing ingredients soluble in glycerine, has the properties of the original

"tuberculin," producing marked reaction in tuberculous subjects and setting up changes around tuberculous foci. The other constituent, mechanically separated from the former, contains ingredients which are mostly insoluble in glycerine and also differs from the other moiety in its physiological action, only producing reaction if given in large amount. But this new product, the "tuberculin remainder," or "TR." as he terms it, is found to possess marked "immunizing" effects, and its administration is proceeded with in gradually increasing doses until immunity is obtained. Prof. Koch has not published these researches before being enabled by extensive trials to pronounce very definitely upon the superiority of the new preparations, and the results they produce in cases of tuberculous disease. It is noteworthy that he speaks with commendable caution as to the permanency of the results he has obtained, and he thinks that it may be possible to produce a lymph of still greater efficacy. We are glad to observe that he lays stress on the fact that these remedies are only efficacious in the early stages of tuberculous disease, a fact which was largely lost sight of in the former therapeutic trials, which ended perhaps in too sweeping a condemnation of the remarkable agency which Prof. Koch had discovered. It is not unlikely that, as one consequence of the inconsiderate and irrational manner in which the use of tuberculin was then adopted, the improved lymph may not for some time be tried on a sufficiently wide scale to judge of its efficacy. Nevertheless Prof. Koch's persevering labors and the knowledge that he would not venture to recur to the subject without good cause must have weight, but we trust that those who do make trial of the remedy will strictly adhere to the conditions which he lays down and will, moreover, keep careful and accurate records of the cases so treated.—Editorial, *London Lancet*, April 10, 1897.

Book Notices.

Mr. W. B. Saunders (914 Walnut St., Philadelphia) announces the early publication of the following interesting list of books.

AN AMERICAN TEXT-BOOK OF GENITO-URINARY AND SKIN DISEASES. Edited by L. Bolton Bangs, M.D., Late Professor of Genito-Urinary and Venereal Diseases, New York Post-Graduate Medical School and Hospital, and William A. Hardaway, M.D., Professor of Diseases of the Skin, Missouri Medical College.

AN AMERICAN TEXT-BOOK OF DISEASES OF THE EYE, EAR, NOSE, AND THROAT. Edited by G. E. de Schweinitz, M.D., Professor of Ophthalmology in the Jefferson Medical College, and B. Alexander Randall, M.D., Professor of Diseases of the Ear in the University of Pennsylvania and in the Philadelphia Polyclinic.

MACDONALD'S SURGICAL DIAGNOSIS AND TREATMENT. Surgical Diagnosis and Treatment. By J. W. Macdonald, M.D., Graduate of Medicine of the University of Edinburgh; Licentiate of the Royal College of Surgeons, Edinburgh; Professor of the Practice of Surgery and of Clinical Surgery, Minneapolis College of Physicians and Surgeons.

ANDERS' THEORY AND PRACTICE OF MEDICINE. A Text-book of the Theory and Practice of Medicine. By James M. Anders, M.D., Ph.D., LL.D., Professor of the Theory and Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College, Philadelphia.

SENN'S GENITO-URINARY TUBERCULOSIS. Tuberculosis of the Genito-Urinary Apparatus, Male and Female. By Nicholas Senn, M.D., Ph.D., LL.D., Professor of the Practice of Surgery and of Clinical Surgery, Rush Medical College, Chicago.

PENROSE'S GYNECOLOGY. A Text-book of Gynecology. By Charles B. Penrose, M.D., Professor of Gynecology, University of Pennsylvania.

HIRST'S OBSTETRICS. A Text-book of Obstetrics. By Barton Cooke Hirst, M.D., Professor of Obstetrics, University of Pennsylvania.

MOORE'S ORTHOPEDIC SURGERY. A Manual of Orthopedic Surgery. By James E. Moore, M.D., Professor of Orthopedics and Adjunct Professor of Clinical Surgery, University of Minnesota, College of Medicine and Surgery.

HEISLER'S EMBRYOLOGY. A Text-book of Embryology. By John C. Heisler, M.D., Professor to the Professor of Anatomy, Medical Department of the University of Pennsylvania.

MALLORY AND WRIGHT'S PATHOLOGICAL TECHNIQUE. Pathological Technique. By Frank B. Mallory, A.M., M.D., Assistant Professor of Pathology, Harvard Medical School; Assistant Pathologist to the Boston City Hospital; and James H. Wright, A.M., M.D., Instructor in Pathology, Harvard Medical School; Pathologist to the Massachusetts General Hospital.

SUTTON AND GILES' DISEASES OF WOMEN. Diseases of Women. By J. Bland Sutton, F.R.C.S., Assistant Surgeon to Middlesex Hospital, and Surgeon to Chelsea Hospital, London; and Arthur E. Giles, M.D., B.Sc. Lond., F.R.C.S. Edin., Assistant Surgeon, Chelsea Hospital, London.

Descriptive circulars can be had on application to the publisher.

The American Therapist.

A MONTHLY RECORD OF MODERN THERAPEUTICS,

WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

VOL. VI.

NEW YORK, AUGUST 15th, 1897.

No. 2.

Original Articles.

A STUDY OF THE STRONTIUM SALTS.

By LEON L. SOLOMON, A.B., M.D.,

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for Nurses; Pathologist Louisville City Hospital;
Assistant in Chemistry, and Clinical Assistant,
Department of Pediatrics, Kentucky
School of Medicine; etc.

Ordinarily the physician at once acknowledges his weakness when he begins to talk about medicinal agents in the treatment of disease. This being the case, it is with considerable hesitancy that I undertake a discussion of the therapeutic properties of the strontium salts, which have quite recently and for a considerable period of months occupied my attention. On this point, it has occurred to me that we are probably devoting too little time and attention to-day to the study of drugs, and are permitting ourselves to become neglectful of a branch of medicine which should demand our most painstaking consideration. From the standpoint of the scientific doctor, diagnosis and pathology are all-important. Compared to these, therapeutics pales into insignificance. But I am beginning to think much more might be accomplished in the treatment of disease, and in the alleviation of suffering, were we more impressed with the value of a few drugs, which we might be willing to study carefully. Too few men are interested in the treatment of disease to-day. It is not my purpose, nor aim to criticise the work of the laboratory or of the autopsy room, for these have been and must ever be powerful factors for the good and advancement of medical science;

but I appeal for practicality at the same time. The lay public, the great mass of sick and suffering are especially desirous of effective treatment and effectual remedies, and they have a right to demand of their physician, that he devote sufficient time and labor to this branch of his profession, to bring about a degree of proficiency compatible with the advancement of the times.

Chemistry and physiological chemistry have opened up to us new fields of treasure within the last few years. And yet, when we stop to consider—with all these vast stores at our command, we are too often quite helpless. I say “too often” advisedly. Such should not be the case, and I am lead to believe will not be the case, when we have undertaken the work as outlined above. These facts, chiefly, coupled with a special desire to acquaint myself with the various strontium combinations and compounds, because of the beautiful chemistry of this element, Strontium, impelled me to make the study. And it would appear to me especially desirable, just now, to study such legitimate chemical combinations, when the country at large is being over-run and overwhelmed with innumerable proprietary preparations and other quack nostrums. Were the same amount of time and the same painstaking care devoted to more work of this sort, instead of lavishing it upon somebody's proprietary medicine, of whose chemical make-up not even the manufacturer, or originator, himself, is positive, the results would be more flattering, I am lead to believe, and the undertaking would surely redound more to the credit of the medical profession.

Never have I been more gratified by the end attained, than at this time and with the strontium salts. The lactate, the salicylate, the bromide, the iodide, the phosphate, and the arsenite have each received a careful and searching trial, with the result, that I am firmly convinced of their efficacy, and, especially, of their marked superiority over the various sodium and potassium compounds, which, up to the present time, the profession are largely using. In the next paragraphs, I shall attempt a short consideration of the element, strontium, giving the details of my work with the strontium salts.

History of Strontium.—Strontium is a bivalent metal, belonging to the "metals of the alkaline earths," and is found native along with calcium, magnesium, and barium. It has an atomic weight of 87.5. To Vulpian belongs the credit of first establishing the value of the strontium salts. This was accomplished in 1885, but not until 1890 were they generally introduced. At this time, Dr. J. V. Laborde proved that strontium was in itself harmless, if free from contamination by the toxic element, barium. Indeed, it was demonstrated beyond doubt by experiments upon animals, that they increased in weight and their general health improved, when strontium was mixed with their food. This effect was supposed to be obtained by reason of the fact that strontium is eliminated by the bowels and kidneys, where it acts as a decided antiseptic.

Preparation.—In a small way strontium may be prepared from the chloride or the hydrate, by a process of electrolysis, but Barthe and Fulières have a method of preparing pure strontium salts from the native carbonate or from the sulphide, which latter they obtain by reducing the sulphate. This method is largely in use to-day. The metal, strontium, is non-irritant and exercises a decided sedative effect. In this respect it differs materially from potassium and sodium, both of which are quite irritating to tissues with

which they come in contact, especially with mucous surfaces.

It is not necessary, here, that I call attention to the effect of potassium iodide or sodium iodide on the stomach, where the dose is large, or where a small dose is kept up for any length of time, nor that I make mention of the fact that it is almost impossible, at times to give Fowler's solution (potassium arsenite) in cases where it, alone, seems indicated, because the stomach at once rebels at the irritating potassium as well as at the arsenic. In such cases my experiments with strontium iodide in place of potassium iodide (or sodium iodide), strontium bromide in place of potassium bromide (or sodium bromide), strontium arsenite in place of potassium arsenite (Fowler's solution) have been highly satisfactory. After all, though, it is not the potassium, or the sodium, or the strontium whose effect we especially desire in giving any of these preparations. It is the bromine and the iodine, the lactic acid, the salicylic acid, the phosphoric acid, the arsenic, etc., whose physiological effect is sought. And this end is best attained when the strontium compounds are used, not only because these salts are less irritating than the identical combinations with potassium and sodium, but because the valence of strontium permits us to give each time just twice as much bromine, iodine, arsenic, salicylic acid, lactic acid, etc., as is possible with potassium or sodium salts. Remember, strontium has a combining number of "two"— Sr^{II} , while potassium and sodium are univalent, *viz.*, have a combining number of only "one"— K^{I} and Na^{I} .

If we bring bromine or iodine in contact with strontium and make them unite chemically, we have a chemical formula like this, $\text{Sr}^{\text{II}} \text{Br}_2^{\text{I}}$; that is to say, it requires two atoms of the univalent bromine to satisfy the one bivalent atom of strontium. On the other hand, when bromine or iodine are made to combine with potassium or sodium, only one atom of the

bromine or iodine is required to satisfy the univalent atom potassium or sodium. The value, then, of the strontium combinations and their superiority over the equivalent potassium or sodium salts, from the standpoint of the increased amount of bromine, iodine, etc., which they contain, must at once be evident.

The various salts of strontium may be used wherever an indication exists for the use of either of the analogous sodium or potassium compounds, as they are ordinarily employed to-day. In carrying on the studies, which I am now about to describe, it was my custom to use the salicylate of strontium side by side with the salicylate of soda, the iodide of strontium side by side with the iodides of potassium and sodium, the bromide of strontium side by side with the bromides of potassium and sodium. It was therefore at all times a comparative study.

Strontium bromide.—There are two varieties to be had, the anhydrous and the crystalline salt. Of the two qualities my preference is for the former, since the same indications are met with it, while the dose is smaller and the taste more agreeable. Both of these salts are readily soluble in water at ordinary temperatures. Wherever the bromides are indicated, the anhydrous bromide of strontium will not disappoint you. Its action is sedative, analgesic, antemetic. In the reflex vomiting of the pregnant state, in the gastric crises of locomotor ataxia, in the continued vomiting and retching, associated with attacks of gall stone colic, and in the gastric irritability of acute alcoholism, or acute gastric catarrh (gastritis) from other sources, this drug has served me especially well, and several times when everything else had failed. Acting both upon the nerve centers and upon the nerve endings in the stomach and other organs, we have an explanation for the decided influence of strontium bromide in relieving vomiting of nervous origin. Germain Sée has used and recommended it warmly in gastric dilatation

and in chronic gastric catarrh, while others affirm its usefulness also in intestinal indigestion and intestinal fermentation, classing it with our most active intestinal antiseptics. In hysteria, nervous cough, and nervous headache, oftentimes no better nor quicker relief can be found than bromide of strontium affords. But especially in epilepsy does the drug serve its best function. Here, as is well known, it becomes necessary to persist so long with one remedy, that it is not at all uncommon to produce very undesirable results, where bromide of sodium, potassium or ammonium are being used. Such is not the case with the strontium salt. When it is given, bromism is the exception. Strontium bromide has a much more favorable influence on the general nutrition, exerting at the same time a harmless effect on the gastro-intestinal mucous membrane. Cases are under observation now where the drug has been continuously used for from 4 to 8 months and never the slightest indication of any toxic effect or depression—in one case 30 grains of the crystalline salt given three, and occasionally four times daily for the past seven months, to a patient 15 years old, has produced not a single untoward symptom—not even any acne—while it has completely controlled all paroxysms. And just here, permit me to digress from the general theme of my paper, long enough to emphasize the fact, that we must give large doses of bromides if we are to hold in abeyance the paroxysm. Nothing succeeds like success, and nothing is so valuable in treating epilepsy as to prevent all attacks from the start. Habit—the epileptic habit—surely plays a part in these poor unfortunate patients. With rapidly recurring paroxysms, the patient loses hope and, becoming despondent, oftentimes worries and frets, until a sufficient amount of nervous force being generated and stored up, the discharge—electrical explosion—must occur. Mendel, of Berlin, advises that the quantity of bromide be increased until the patient is

entirely controlled. The amount necessary to accomplish this result once determined, he insists upon keeping the patient on this amount for at least one year. I fear we are ordinarily guilty of prescribing too small a dose.

In diabetes mellitus, Sée has used bromide of strontium with the result that it lessened considerably the amount of sugar excreted. Finally, besides other uses, not yet enumerated, I have been greatly pleased with the action of the salt in controlling tinnitus aurium. Where quinine is prescribed, and it is known from previous experiences that much ringing in the ears will be caused, strontium bromide has the most happy effect. For each 3 grains of quinine I am in the habit of giving 10 grains of the strontium.

Iodide of strontium.—The same remarks which have been made relative to the general effect of the metal, strontium, apply to the iodide. Wherever iodides are indicated, strontium iodide may be substituted for the historic potassium or sodium salt, and always with entire satisfaction. It is borne much better by the stomach, and is not nearly so apt to cause an eruption. My case book records an experience with a fastidious lady patient, who could not bear either sodium or potassium iodide, but was able to take the strontium salt nicely. I have usually given it in the same size doses as we are accustomed to employ. The acne-like skin-lesions, so common in iodism, are very rarely observed, and the slight pyalism with fetid breath was always wanting.

Salicylate of strontium.—This is a crystalline salt, soluble in water. It fulfills every indication met by sodium salicylate, having fewer objectionable features, does not upset the stomach, does not depress to the extent of sodium or potassium salicylate. At the same time, if the formula of strontium salicylate be examined, $\text{Sr}(\text{C}_7\text{H}_5\text{O}_3)_2$, it will be seen that for every part of strontium, two

parts of the salicylic acid radical are obtainable. In other words, when we give this salt, we can expect results from the salicylic acid. The same is true, but to a less degree, when sodium salicylate, $\text{Na}(\text{C}_7\text{H}_5\text{O}_3)$, or potassium salicylate, $\text{K}(\text{C}_7\text{H}_5\text{O}_3)$, are taken.

Strontium arsenite.—With this more recent addition to our armamentarium, very pleasing results have been accomplished. In doses of $\frac{1}{60}$ to $\frac{1}{10}$ grain it is a powerful tonic and alterative. It has been employed by me in malarial cachexias as a synergist to quinine, also in several cases of chorea, and on one occasion in psoriasis—each time successfully. My claims for it are: less irritation than potassium arsenite (Fowler's solution) while permitting of the administration of double the quantity of arsenic. Compare formulæ: $\text{Sr}(\text{AsO}_2)_2$, and $\text{K}(\text{AsO}_2)$.

Strontium phosphate.—This is a white, tasteless powder, which is quite soluble in acids. It may be given in acid solutions or taken dry on the tongue, followed by a draught of water. If given in powder, the best time is about twenty minutes after the meal is begun, when the stomach contains *free* acid. Strontium phosphate is a distinct tissue builder, and has a wide scope of usefulness. It feeds the wasting tissues with phosphorus, and, in greater abundance than is possible with its sister salt, calcium phosphate, $\text{Sr}_3(\text{PO}_4)_2$, and CaHPO_4 . Dose v to xl grains.

Strontium lactate.—Is a white, granular powder, sometimes appearing as crystalline nodules. It is odorless, but has a slightly bitter, saline taste. Not very soluble in water, about 1 in 4 parts. In doses of 10 to 30 grains Laborde obtained decided action from this drug, his experiments proving that elimination of nitrogenous material was very greatly increased under its use. Others have confirmed his results. In acute and chronic parenchymatous nephritis I have obtained very favorable influence in several cases. The volume of the urine being increased, while the percentage of albumin grew

less. In the albuminuria of pregnancy, it is the most satisfactory agent with which I am acquainted, and if systematically used, at this time, I am confident fewer cases of eclampsia would occur. In the chronic parenchymatous nephritis the general condition and nutrition of my patients improved under its administration. Lactate of strontium is also recommended in diabetes and against intestinal worms. Personally I have had no experience with the agent in either of these conditions. That it exerts a favorable influence over the intestinal tract seems proven.

I have chosen this occasion to publish the results of my labors with these comparatively new medicines, although the work is yet incomplete, hoping thereby to stimulate others to undertake the same or similar work. Recently various shrewd manufacturing chemists have hit upon a very novel means of stimulating and persuading the profession to do a like service for them, which might ultimately advertise their preparations. I refer to the scheme of offering cash premiums and other prizes for the best essay, which shall be written, setting forth the value of some "wonderful specific" or "more wonderful panacea." The purpose of such an undertaking is so diametrically opposed to the good interests and loftier aspirations of medicine, and of the medical profession, that we might have supposed only charlatans and advertising quacks would have given support thereto. No little pain and remorse has been caused, therefore, when it became generally known that some of our so-called best and brainiest men have lent a helping hand and have actually engaged in these competitions and contests—sad indeed is it, when "brains" and "cunning" join hands, hearts, and pocketbooks for a common cause, destined to do so much harm. Let us hope that the rank and file of the profession will frown down on this evil, until its existence and very name shall be a thing of the past. The question

might be asked just here: Do we need a new and revised Code of Ethics to meet these constantly multiplying exigencies? Probably so. The times are now different from those of the birth of the old code. However, I am inclined to accept the version of that great and good old man Dr. D. W. Yandell, who used to say to his classes of medical students, when speaking of the code, "Why, Gentlemen, what need have we for ethics. A gentleman never needs a code of ethics to govern his actions, and a d— rascal will never live up to a code."

Meanwhile, however, let us do what our good judgment suggests. At a later date, when other suitable cases have presented fresh material, I hope to take up the thought again where it has been left off to-day.

*CARIES OF TIBIA OF TWENTY-FIVE
YEARS DURATION, ACCOMPANIED BY DISEASED
CONDITION OF SKIN OF
ENTIRE LEG.**

By JAMES B. BULLITT, M.D., Louisville, Ky.

This case presents some features of unusual interest. I exhibit the patient in the hope that some of the gentlemen present may make a suggestion which will be of service in the treatment of the condition of his leg. The history is, that he is now forty-one years of age; twenty-seven years ago he was kicked by a mule on the upper portion of the tibia, and up to two years ago—that is, for twenty-five years—he had a carious process going on at that point, when he came under my care. I made an opening by chiseling out the bone, and encountered quite a large cavity in the head of the tibia, and the pus and cheesy matter was scooped out with a spoon. Following this almost complete healing took place. Since that time, however, the skin has become cracked

* Reported to the Louisville Surgical Society, and contributed exclusively to the AMERICAN THERAPIST.

and ulcerated and refuses absolutely to heal. There appears a constant tendency to the formation of crusts, underneath these crusts there is a small accumulation of sero-pus, then the crust comes off leaving a comparatively good surface, then the formation of another crust occurs, and so on. This process has been going on for two years, and it would seem quite probable that unless we succeed in some way in relieving it, eventually there might occur a malignant process which sometimes begins as a result of a case of this kind.

I have tried a great many local applications, none of which have been of decided benefit. The larger of the original wounds has healed, leaving a depressed cicatrix, as you will observe; but quite a large ulcerated surface remains which refuses to heal. I have curetted the surface, scraping away all granulation, but even this has not resulted in complete healing; ulcerated patches still remain, with the formation of crusts and pus underneath them. He also has, as you will see, a varicose condition of the veins on the upper part of the leg and around the knee and ankle. It is not an ordinary case of varicose ulceration, I am quite sure.

If any of the gentlemen present can make a suggestion as to the best method of treatment, I shall be grateful.

Dr. Geo. W. Griffiths.—I have used in cases similar to this, with a great deal of success, simple vaseline. The leg should be bathed frequently with a weak solution of the permanganate of potassium, then apply vaseline, and it is of the greatest importance that the leg be kept in a roller bandage from the toes up. Almost any application to a surface like this will act in such a manner as to harden rather than heal the surface. The least we do for these cases sometimes the better, and I have been in the habit of using plain vaseline, without even carbolic acid.

Dr. James S. Chenoweth.—I have had cases of this kind where the ulcerated sur-

face was slow in healing. I think the surface is kept irritated in some cases by the continued application of antiseptics, such as carbolic acid, bichloride solution, etc., and by confined discharges. The leg should be dressed *frequently* with such non-irritative material as will quickly absorb the secretion, in order to keep the parts as dry as possible; then the many-tailed bandage, and elastic flannel roller, should be so applied as to make equable pressure. This plan faithfully carried out, with iron, arsenic and mercury internally, (Elix. three chlorides—R. & H.) will, I believe, be all that is essential, although the cure may be hastened by some local medication.

Dr. A. M. Cartledge.—The most important thing is to find out what the trouble is in the case before us. I am not sure; still the condition does not impress me as being one of ordinary eczema; its appearance is suggestive of a tuberculous condition of the skin. Its chronicity and the depth to which the disease extends would also favor this view. It is deeper than an ordinary eczema. I believe that the methods thus far suggested in the treatment of this case will be inadequate, they will fail to relieve the trouble. The best chance of getting started in the right direction would be a radical attempt to sterilize it under anesthesia, going over the whole surface with a curette, taking care not to go below the true regenerative skin. I think none of the ointments, eczema preparations, etc., that you may invent will cure this ulceration. I believe the curette the best treatment in this case.

Dr. W. C. Dugan.—I agree with Dr. Cartledge, that the trouble here is probably tuberculous in character. In my opinion it is not a case of simple eczema. I have a case at the City Hospital now where an intense irritation has been brought about by the application of iodoform gauze; when gauze is applied the entire limb will become in a condition of acute eczema. I am satisfied that the case before us is one of tubercular trouble.

Dr. James B. Bullitt.—As stated in my opening remarks, I brought this man before the Society to get some suggestions as to the best method of treatment, and thank those who have spoken for the hints thrown out. I do not believe the condition is simple eczema, because it has some features which are different from this affection. At the same time it has scarcely followed the course of a tuberculous process; that is to say, these ulcerated patches have healed and broken down alternately; healing would take place at one point, and a new spot of ulceration make its appearance there later.

July 10th, 1897. — Under indifferent treatment, as regards medicinal treatment and applications, but with care as to cleanliness and constant bandaging, this patient is well. The ulcerated patches have disappeared and the brawny skin is more pliable and healthy. J. B. B.

ERGOTIN AND GALLIC ACID IN NEPHRITIS. — Pulvirenta gives the following prescription :

R Ergotin..... 5
Acidi gallici 8
Ext. et pulv. rad. rhatan 3

M. Fiat pil. No. xxiii.

Sig. One pill to be taken four times a day.

R Ergotin..... 2
Acidi gallici..... 4
Saccharin..... 0.5
Muc. gum. arab. 200

M. Sig. Teaspoonful to be taken twice daily.

These drugs are vascular astringents, and therefore diuretics. Like cantharides, they are contra-indicated when cardio-vascular compensation is efficient and diuresis copious.

They can only be of use when arterial tension is low, dropsy urgent and urine scanty. Even here they should be combined with cardio-vascular stimulants, such as digitalis, squill, strophanthus and strychnia, otherwise there is danger of over-taxing the heart by increasing its labor.—*Treatment.*

A PERFECT PREPARATION OF IRON, WHICH IS ALSO A FOOD.

By C. EARLE WILLIAMS, M.D., Boston, Mass.

In the struggle for supremacy over the diseases of to-day the physician has no more difficult enemies to combat than those insidious twin sisters—Anemia and Chlorosis. Since the German savants have succeeded in synthetically preparing organic iron, thereby eliminating its irritant and astringent properties, this task has become somewhat easier. One of these newer preparations, Ferratin, appears to be the most satisfactory, owing chiefly to its ready absorption, and that the most delicate stomach retains it satisfactorily. It is a synthetical product, identical with the iron compound from all food as found in the liver and other organs of the body. The originator is Professor Schmiedeberg, the eminent pharmacologist, of Strassburg.

Ferratin is a reddish brown powder, readily soluble in water on addition of a small quantity of sodium bicarbonate. As it is practically tasteless, it may be dispensed pure in powders, to be taken in wafer paper, or in cachets or capsules. A favorite form is the tablet, containing $7\frac{1}{2}$ grains ferratin with chocolate and slight flavoring, as supplied in one ounce packages by the manufacturers of ferratin. For children a good method is to order ferratin in 4 grain powders, and direct parent or nurse to mix a powder with an equal amount of granular sugar, take this dry into the mouth, and wash down with water or milk. Or we may prescribe (for adults; half the quantity for children):

R Ferratini 3 iv
Sodii bicarb..... 3 ijss
Sacchar. alb..... 3 iv

M. S. Divide into 32 powders; take one in a glass of sweetened water three times daily.

The average adult dose is $7\frac{1}{2}$ grains ($\frac{1}{2}$ gramme) three times daily, but this can be doubled at beginning of a treatment and in aggravated cases; the treat-

ment should be continued six to eight weeks. There is no possibility of deranging the system or of over-dosing. Ferratin does not constipate; it increases appetite; it does not affect the teeth; it is absorbed to the extent of 20 per cent. on an average, and the excess is promptly excreted. These are all facts, physiologically and therapeutically proved by Schmiedeberg, Marfori, Fillippi, Cloetta, Chittenden, Fackler, etc.

I have found ferratin very efficient in anemic and chlorotic cases, being able to continue its use for almost any length of time without gastric or intestinal derangement. In the various diatheses, in conjunction with their proper specifics, it has always given good results in my hands. In cases of cardiac hypertrophy due to inefficient nutrition and mal-oxidation, where there is frequent dyspnea and palpitation, ferratin is invaluable, as under its invigorating influence the pneumogastric nerves are enabled to exercise their wonted inhibitory action over the heart.

It is the general rule to find anemic patients who have been taking iron tonics, complain of persistent headaches, probably due to the fact that their nerve centres are in such a state of hyperesthesia from impoverishment that the least gastric derangement causes cerebral disturbance; in the cases in which I have used ferratin this distressing symptom has never occurred.

I append a few cases in which I have used ferratin.

Case 1.—General anemia. Miss F. C., age 17, came under my observation Jan. 2d, 1896. Was a pale, sallow looking girl, complained of dyspnea, palpitation, loss of appetite, pain and flatulence after food, derangement of menstruation, which was very scanty and often absent, and neuralgic pains in head. On examination I found a soft murmur following the systole, and the veins on the right side of the neck gave forth an unmistakable bruit. An examination of the blood resulted in finding the number of red corpuscles to be

2,000,000 per ccm., with hemoglobin 35 per cent. She was kept in bed on a light nutritious diet, ferratin, gr. viij, being given three times daily. This treatment was continued, with an occasional purge, until March 5th, during which time there was a steady and continuous improvement without any gastric disturbance. The blood count now showed 4,000,000 per ccm., hemoglobin 65 per cent.; the murmurs, dyspnea, palpitation, etc., had disappeared, and the patient looked well.

Case 2.—Malarial cachexia. Mrs. L. D., age 37. February 4th, 1897. Found a history of several attacks of malaria. She was in a very anemic condition, languid and weak; the face, lips, gums and conjunctivae had lost their natural color. The heart sounds were feeble, with a systolic murmur, and the pulse weak, rapid and irregular; there was edema of the ankles and eyelids, and the muscles were flabby and weak. Blood count showed 2,600,000 per ccm., and hemoglobin 40 per cent. I ordered her ferratin, gr. viij, four times daily in conjunction with quinine.* There ensued a steady improvement from the first. March 10th, blood count 3,500,000 per ccm., hemoglobin 55 per cent. Dose increased to gr. xv, four times a day. April 8th, a marked improvement in all the symptoms, the tongue, gums, etc., had a red color, the muscular weakness was gone, the pulse regular, menorrhagia absent, there was no murmur, and the dizziness, dropsy, etc., had disappeared. Blood count 4,600,000 per ccm., hemoglobin 85 per cent.

Case 3.—Cholera infantum. George H., age 3. This case came under my observation August 1st, 1896. The child was in an advanced marasmic state, with the ordinary symptoms of this disease. Having succeeded in ameliorating the urgent

* The following is a serviceable combination in migraine, neuralgias, headaches, and other nervous affections:

R Ferratini..... 3 ij
Quininae hydrobrom..... 3 j

M. S. Divide into 20 powders or capsules; take one shortly after each meal, three times daily.

symptoms with the usual remedies and modified milk, a long tedious convalescence commenced. I tried several tissue building remedies with poor results; they were invariably rejected on administration. Was placed on ferratin, gr. j, t. i. d., which was slowly increased. With the exception of a few times it was retained from the first. After a week the child began to sleep naturally and take food regularly. The recovery was uneventful. No blood count was taken in this case.

Case 4.—Amenorrhea. T. P., age 19. Came under my treatment May 10th, 1897. She had not menstruated for five months. Her complexion was chlorotic, with large dark rings around the eyes. There was dyspnea and palpitation on the slightest exertion, constipation sometimes lasting seven days. Vicarious secretion was represented by frequent nose bleed. Blood count showed red cells 3,000,000, hemoglobin 52 per cent. She was placed on ferratin, gr. viij, four times daily, with aloetic purges,* combined with perfect rest.

June 15th, great improvement in every way. Red cells 3,700,000 per ccm., hemoglobin 65 per cent. The dose was increased to gr. xij, four times a day, unintermittingly until August 1st, resulting in complete recovery. All the distressing symptoms had left; menstruation returned, quantity and quality good; red cells 4,600,000, hemoglobin 92 per cent.

Case 5.—Mary C., age 34. This lady came under my observation March 13th, was a mother of seven children, the last one being born March 1st. Had several profuse post partum hemorrhages, and

* I have sometimes used the following with good effect:

R Ferratini.....	3 ij
Rad. rhei pulv.....	3 iv
Sodii bicarb.....	3 ij
Ol. foeniculi.....	gtt. xxx

M. S. Take a teaspoonful in wafer, or dry into the mouth, and wash down with a draught of water.

And also this:

R Ferratini.....	3 iij
Extr. Aloes.....	gr. xiv
Extr. rhei comp.....	gr. ix

M. S. Make into 30 tablets; take 1 or 2 tablets twice daily.

when I saw her was nearly exsanguinated, with the usual symptoms; number of red corpuscles 2,590,000, hemoglobin 45 per cent. She was at once placed on ferratin, gr. xv, four times a day, in conjunction with ergot and strychnine.

March 20th, another hemorrhage having occurred, a curetting was deemed necessary, which was done; no alteration in treatment.

March 26th, patient was slightly better, the languor being less intense, while the conjunctivae, mucous membranes, etc., were tinged with red. No blood count taken.

May 3d, much improved, blood count 3,700,000 per ccm., hemoglobin 70 per cent. There was no further hemorrhage after the curetment.

June 1st, patient looking and feeling well in every way. Blood count nearly 5,000,000 per ccm., hemoglobin 95 p. c.

It is worthy of note in this case that from the first there was no gastric disturbance whatever, and that the strychnine and ergot were discontinued from March 20th.

Case 6.—Anemia. J. B. H., age 20. Oct. 11th, 1896. Found this patient suffering from well marked mental depression with hysterical symptoms; the heart's action was feeble and irregular with a systolic bruit, the force of the circulation much lessened, the surface of the body and extremities feeling cold, the mucous membranes, etc., being very anemic. Red cells 3,200,000 per ccm., hemoglobin 64 per cent. Ferratin was administered in 8 grain doses, four times daily, with a most nourishing diet and open air exercise.

Nov. 17th, most of the anemic symptoms had disappeared, the mental depression entirely so. Blood count, red cells 4,300,000, hemoglobin 75 per cent.

December 6th, apparently quite well; no blood count taken.

I also used ferratin in a case of convalescence following a gastric ulcer with good results, but as the case passed out of my hands I have not recorded it.

THE TREATMENT OF SUMMER DIARRHEA.

By W. T. PARKER, M. D., Groveland, Mass.

At this season of the year we are frequently called upon to prescribe for derangements of the digestive system which are apt to have as a noticeable symptom more or less chronic diarrhea. Such a condition may exist when the irritating cause which produced it has ceased to be present. Of course the majority of cases of diarrhea have their origin in indiscretion in diet, producing intestinal indigestion, the diarrhea being merely the method which nature adopts for ridding the bowel of the irritant.

Some mild cathartic is the usual method, with a view to assisting nature. Castor oil and spiced syrup of rhubarb are often useful; salines, although frequently prescribed, are objectionable in many cases. Of the various remedies—gallic and tannic acids, zinc, lead, alum, capsicum, kino, arsenic, and others—probably iron is the most reliable.

Iron-alum has heretofore been recommended, but a preparation known as *ferrum tannate* is, in the writer's experience, superior to any thing else as an intestinal astringent. It is best administered in the form of a pill. It should be triturated thoroughly one part of the ferrum tannate to ten parts of the sugar of milk. Each pill must contain one grain of the iron tannate, one of which should be given three or four times daily.

When the administration of an intestinal antiseptic of decided ability is required, Aronson has employed with great success paraform. In twenty cases of infantile diarrhea he gave the patients from three-fourths to one and a half grains every two hours. This treatment resulted successfully. He is so impressed with the intestinal antiseptic ability of this preparation that he recommends it in the early stages of typhus (abdom.) and also in cholera.

HYSTERECTOMY, WITH SUBSE- QUENT HÆMORRHAGE CON- TROLLED BY HYPODERMIC INJECTIONS OF ERGOTOLE.*

By W. E. ARD, M.D., New York.

Mrs. H., a resident of this city, was referred to me by her family physician on March 20, 1896. The following history was secured:

Age, thirty-six; married eighteen years. Menses appeared in eleventh year, were regular, of three days' duration, normal in amount and without pain.

A miscarriage occurred in fourth month of pregnancy during the first year of married life, and one year later her only child was born. Labor was normal, but was followed by cystitis and suppuration of an inguinal gland.

Her mother died of carcinoma of the uterus in her fifty-sixth year.

The patient's symptoms at that time were as follows:

Dull pain in hypogastric region, constant headache, nausea, constipation and a constant bloody discharge from the vagina which had been uninterrupted since December, 1895. This discharge was at times scanty, but usually very free, and, as a consequence, she had lost much flesh and was very anemic.

Being then in the Woman's Hospital and unable to care for her myself, I referred the case to a gynecologist who made an examination under ether. He found a fibroid tumor about the size of a hickory-nut in the posterior wall near the vaginal junction, also a salpingitis on the right side. The uterus was curetted at this time. The condition was explained to her and hysterectomy advised, which she refused, and soon after returned to her home. The symptoms were not relieved to any extent beyond diminished flow for a few days. Later she was twice

* Read before the Woman's Hospital Society, March 9, 1897.—From the *American Gynecological and Obstetrical Journal*, June, 1897.

curetted by her family physician with no better results.

She was again sent to me early in February of this year. On examination the fibroid in the posterior wall was found to be slightly larger, and very plainly outlined. There was marked tenderness on the right side and all of the symptoms previously mentioned were intensified. An immediate hysterectomy was advised, which I did on February 4, assisted by Drs. Dunning and Le Barbier. The operation was done at the patient's home, under the usual antiseptic precautions. The vaginal method was selected, using ligatures on the uterine arteries, and clamping the ovarian. The ovaries being healthy were not disturbed. In removing the tube on the right side, the ovary was slightly torn, but there was no hemorrhage from it at that time. The vagina was packed with sterilized gauze, and the patient put to bed in excellent condition.

Three hours later I was summoned and found the patient with a sub-normal temperature, a weak and rapid pulse, great pallor, extremities cold. Stimulants were used and hot applications made. A careful examination of clamps and ligatures revealed no hemorrhage from those points, but the drainage being very free, and of a bright color, I recalled the tear in the ovary, and attributed the bleeding to it.

It was an exceedingly difficult question for me to decide whether to open the abdomen with the patient in a collapsed condition, or to try a less radical procedure. The latter was decided upon with most happy results. I administered ten minims of ergotole hypodermically, repeated it in a half-hour, and afterwards at intervals of two hours for ten hours. After the second injection the pulse showed marked improvement, which was continuous. Under the previous use of stimulants alone the pulse would respond for a short time and then become weak and thready again.

The patient rallied nicely, and made an uneventful recovery, sitting up on the twelfth day.

The specimen, which you will have an opportunity of examining, shows a polypus attached to the fundus, and extending to the internal os. Also two small sub-peritoneal fibroids on the fundus, in addition to the one in the posterior wall, which was removed during the operation.

The points of special interest in the case are: First, the fact of the uterus being curetted three times without the discovery of the polypus, which I now believe to have been the cause of the hemorrhage; second, the successful use of ergotole hypodermically for the control of hemorrhage.

THE USE OF GALLIC ACID IN THE TREATMENT OF TUBERCULAR HEMOPTYSIS.—In the *Journal des Practiciens* of September 12, 1896, Deguy, after quoting the paper of Capitan, already published in the *Therap. Gazette*, asserts his belief in the use of full doses of gallic acid in this condition. The doses he employs vary from four to fifteen grains, and may be given in powder, pills, or solution. A very useful mixture is ten grains of gallic acid in four ounces of infusion of orange; this quantity may be taken each day. In other instances if the hemoptysis is very abundant, gallic acid may be advantageously associated with ergotin as follows:

R Gallic acid gr. 30
Ergotin gr. 15

M. Make into twenty pills.
Sig. Take five or more each day.

In other instances a prescription made up as follows is of advantage:

R Gallic acid gr. 2
Ergotin,
Powdered Ipecac, of each.... gr. 1
Powdered digitalis gr. ¼

M. Sig. To be made into one pill.

Five or six of these pills may be used each day if necessary. In still other instances, if cough is excessive, the following may be used:

R Gallic acid gr. 2
Sulphate of quinine,
Ergotin, of each gr. 1
Extract of opium gr. ½

M. Sig. Make into one pill.

Five such pills can be given each day.—*Therapeutic Gazette*.

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Subscription Price, - - \$1.00 per annum.

PUBLICATION OFFICE, 73 TO 79 FULTON ST., NEW YORK.

Address all communications to

THE AMERICAN THERAPIST,

P. O. Box 1170.

New York City.

Vol. VI. AUGUST 15th, 1897. No. 2.

Editorial.

HYPNOTICS.

We recently quoted a brief summary on hypnotics from the 1897 "Year-book of Treatment," calling attention to the uselessness of most of the agents introduced during recent years, attesting the safety and superiority of chloral and chloralamid, admitting the value of sulfonal and trional—if used with care to prevent dangerous symptoms, and referring to pellotine—the only new introduction of last year.

Nearly five years ago we compiled a list of "New Hypnotics," quoting trade and chemical names, and synonyms, and giving brief therapeutic estimates of each. The article was widely copied at that time. It included all the hypnotics known now, excepting only trional and pellotine. A similar list, emanating from some German publication, is going the rounds of the pharmaceutical and medical press now. It is a demonstration of the fact—only two new hypnotics having been introduced during the past five years—that the fear expressed occasionally in some quarters, that the "avalanche of new remedies is overwhelming us," is unfounded.

An American author, whose specialty is Therapeutics, and who is just now engaged in a study of hypnotics, gave us his estimate of this class of agents in a conversation recently; we quote his views in our own words:

The only new hypnotic introduced during the last ten years, is pellotine; its value is not yet established, although several favorable clinical reports have been published; nothing valuable therapeutically has been heretofore gained from the cactus plant. Trional, introduced recently, is only an improved sulfonal (dating back more than ten years), and the two are equally dangerous. Chloralamid is the next recent introduction, and is the safest of all; but even chloralamid can induce a habit, although few cases are on record; it is least poisonous, and patients have recovered without damage from enormous overdoses.

All the new hypnotics can be used successfully in some cases, properly administered. Chloral and chloralamid appear to yield the best and most reliable results, while least exposing the patient to dangerous symptoms. The ideal hypnotic is still to be attained.

TREATMENT OF GOUT.

Dr. H. C. Wood endeavored "to epitomize in fifteen minutes the wisdom of the ages with regard to" this subject, before the Section on Practice of Medicine at the Philadelphia meeting of the American Medical Association. The discourse must have held the close attention of the Section, if we may judge by the interesting report as printed in *The Journal*, July 31, 1897. "I myself believe," was the discouraging opening, "that all our scientific knowledge of gout at the present amounts to little more than a mass of trundling expectation upon which hereafter shall be built some true knowledge." But before he finished, the hearers had considerable knowledge, tersely expressed, and suitable for application in practice.

There are three types: rheumatoid arthritis, podagra (or true gout), and articular rheumatism. From personal family history he showed that gout is an inheritance, not likely to be dissipated like more material benefits. As to *treatment* the

gout at all, but to attempt to treat great principle is "not to attempt to treat the individual." *Diet* ♪ "There is no diet for gout. It is diet for the individual." That is a trite statement. What is good for one is ill for another. "A milk diet is one which probably suits the large majority of patients. But that which suits the individual, the stomach, the digestion, will suit the gout or kill the gout." *Exercise* ♪ Does more good than anything else, if right amount is achieved. "If we try to put into an ounce bottle, three gallons of exercise, we crack the bottle." Start with little; keep it up daily, "within the point of causing exhaustion;" increase gradually, and it will do more good than any drug.

And now, of drugs, we will quote in full:

With regard to drugs, there are a great many people who tell you that salicylates do no good. Men do not get good out of salicylates because they do not use them properly. I do not believe that salicylates cure gout or rheumatism, any more than that bromides cure epilepsy. They simply aid in keeping down the diathesis. If there be any cure, it is exercise. If you use your salicylates on a case properly, and get no response, you have something more than ordinary gout or rheumatism to deal with. There are certain cases which approach typical gout, such as we rarely see in America, in which colchicum does good, much more good than salicylates. I have seen two cases of typical English gout corresponding to Sydenham's description, and only two. We do not have it in this country. Those cases colchicum suits better than salicylates do. Sometimes, when the cases are on the border line, you will get the best results by a combination of colchicum with salicylates. If you have a strong robust man, he will stand it. Give him knock-down doses in addition to purging him and you will bring him through. But that treatment may be worse than the disease, and has to be used with caution.

In using salicylates the profession almost universally choose the worst salt they can find, and that is the sodium salicylate. It is, perhaps, not so bad as salicylic acid, but it is much more apt to turn the stomach, and is less effective

and more depressing than the other salts of salicylic acid. The two salts which are truly useful are the ammonium salt and the strontium salt. The ammonium salt acts immediately and severely; the strontium salt acts slowly. If you have an acute case, use salicylate of strontium, or use the two combined. The strontium salt has this advantage, that it does not derange digestion anything like the other preparations, and many a time have I seen the best effects on the intestinal condition from the use of the strontium salt.

In a large majority of cases you will find that salicylates produce depression, and perhaps a little nausea, general wretchedness, and the patient refuses them. Nine times out ten you can overcome those effects by combining your salicylate with digitalis and strychnine in the same prescription.

As to baths you can not cure a diathesis by baths. It can not be done. But baths are useful, hot baths, steam baths, Turkish baths. Any man who values his own life, who has had a gouty grandfather, ought to take a Turkish bath once a week. You can not wash out ancestral traces in any other way. The kidney disease and the atheroma will be far less rife if we use the hot bath more than we do. The baths eliminate, give a temporary result and are very useful when employed with the understanding that they do not cure the disease but relieve the symptoms.

A word about the Tallman-Sheffield apparatus or dry heat, which I have a good deal of experience with this year. For about three months I had a large clientele using it all day long. In the first place, it is absurd to suppose that this is going to cure the gouty diathesis any more than that any other application will. In the second place it is my experience that it has very little value in the rheumatoid arthritis. In the third place, it is of very little value in chronic inflammations, even of purely gouty character, in joints. But I had my office crowded with people seeking relief, and it is empty to-day, and that is the best criterion of the result. If the results claimed for the treatment were obtainable, I could soon fill this hall with patients, for they all want relief; but every missionary I sent out converted the people to the wrong faith. On the other hand, when you have deposits in the tendons and outside the joints; when you have traumatic synovitis, whether in base-

ball men or other persons, the results of this apparatus seem almost marvelous. I have seen a pitcher's hand drawn up and disabled for three or four years, the condition pronounced by a distinguished physician as gout, treated by the dry heat method, and after three or four treatments the hand had become pliable and the use of it came back. So, in acute strains and tendinous inflammations, this dry heat is of great value. In subacute rheumatism it is of value through its sweating and local influence. It has to be used at high temperatures. I carried it up to 330 degrees F. You can scorch the lint wrapped around the limb without scorching the limb. It has no value at all, according to my experience, in old cases of rheumatoid arthritis, and very little use in rheumatism of the joints.

Current Literature.

LACTOPHENIN: ANALGESIC AND ANTIPYRETIC.—Dr. Charles M. Watson, of Florence, Ala., reports briefly, in the *Alabama Med. and Surg. Age*, July, 1897, on his successful use of lactophenin, quoting these cases from practice.

"A lady, about fifty years of age, was suffering with an attack of dysentery. Her blood was impregnated with bile pigment to such an extent that I feared icterus as a result or complication. Such cases are always troublesome, and I treated this case as I do other cases accompanied with billiousness. For the fever, restlessness, thirst, insomnia and pain I gave eight grains of lactophenin, and its effect was so satisfactory that I will use the old phrase and say that it acted "like a charm." I was greatly pleased with the result obtained from lactophenin in this case.

"The next case in which I used lactophenin was that of a girl ten years of age who had a temperature of 104°, which was attended with great nervousness. In fact, the nervous symptoms were such that I feared convulsions. I gave her four grains of lactophenin, which was repeated, when her fever was reduced to normal and she became quiet and comfortable."

BLÉNORRHŒA NEONATORUM.—Dr. A. O. Pfingst, of Louisville, in a careful and thorough presentation of this disease, before the Mitchell District Medical Society July 8, 1897 (reported in the *Louisville Medical Monthly*), furnished in detail his successful method of treatment:

Little change has been made in the treatment of blénorrhœa in latter years. The value of nitrate of silver as a local remedy has been so drilled into us that we almost look upon it as specific. While I do not want to condemn the use of this efficient remedy entirely, I do believe that too much reliance is placed in it. As a rule it is employed irrespective of the stage of the inflammation, whether the lids be swollen or no, and the accessories of the treatment are given little or no attention. By the accessories I mean the application of cold and the frequent irrigation of the parts.

Cold applications should, I think, hold a prominent position in the treatment of blénorrhœa. In the early stages when the lids are so swollen that, for the inexperienced, it becomes almost impossible to open them, cold compresses usually cause the swelling to subside rapidly. In this stage, unless skilled in the manipulation of the lids, the nitrate of silver treatment should not be begun. In fact, I believe that with the utmost care and skill the eversion of the lid necessary to make the application causes slight abrasion of the corneal epithelium at times, which furnishes an avenue for the entrance of the coccus and leads to further damage in the depth. In my experience the most convenient way to apply cold is by means of small bits of soft linen twice doubled, or cotton. They are left no longer than a minute or two when they are replaced by fresh ones, which are conveniently placed near the patient upon a cake of ice. The application of these cold compresses is continued for an hour. The treatment should be repeated at intervals of two hours during the day and night until the swelling is reduced. Along with this, the lids should

be opened as well as possible by an attendant every 15 to 30 minutes and the surface flooded with some solution. Little importance should, I think, be attached to the chemical character of the solution as long as it is not polluted. The object is to get rid of excreted matter, and not to destroy germs. Sterile water answers the purpose admirably. Boric acid solutions are frequently used for the purpose. The mistake often made by the physician is that he is not explicit in his direction of the cold and irrigation treatment. If orders are simply given to make ice applications and wash out the eyes with some drops ordered by him, the parents usually use the treatment just as convenience allows it. The dangerous character of the disease should be thoroughly impressed upon the parents, as well as the importance of regular and careful treatment.

When the swelling has been reduced the nitrate of silver treatment may be instituted. The technique of its application hardly needs repetition. I begin with a 1 per cent. solution and increase it rapidly to 3 to 4 per cent. if borne well by the patient, applying it once a day, followed immediately by irrigation with water. The irritation following its use is allayed to some extent by the application of ice.

ARGONINE IN BLENNORRHOEA.—Dr. A. O. Pfingst, in concluding his paper from which the foregoing method of treatment is quoted, furnishes the following guarded endorsement of argonine:

Of new remedies suggested in the treatment of blennorrhœa I want to say just a few words about argonine. This drug—albuminoid of silver—has, as you know, been heralded as a substitute for nitrate of silver in the treatment of clap. Although reported results of a proprietary remedy must be taken "with a grain of salt," there really seems to be some efficacy in the medicine. Numerous reports by Swinburn and others showed that the gonococci rapidly diminish in number after

its use, and that the inflammation subsides rapidly. In the use of nitrate of silver on the eye an objection worthy of our consideration is its irritating effect. Infants usually cry as if in distress for one-half hour or more after its application. As argonine gives a bland solution, of which you may convince yourself by touching it to your tongue, I concluded to employ the remedy after seeing a report by J. Trester Smith, of Chattanooga, of its successful use. The first case upon which I used it was a child five days old. The inflammation had started in both eyes at about the same time. I began applications on one eye and left the other without any treatment, save frequent irrigation. On the next day the eye upon which the argonine had been used looked decidedly better than the other, which persuaded me to continue its use and also apply it to the second eye. This case, as well as two others, yielded nicely to the treatment. I do not want to go on record as advertising proprietary remedies, but give you the cases for what they are worth. Three cases, of course, furnish no criterion of the value of any treatment, and my cases might have recovered just as rapidly without argonine treatment. I am, however, encouraged by its use and will give it further tests. It does away with the irritation of nitrate of silver as evidenced by the way the babies quiet down and go to sleep directly after the treatment. Dr. Ray, of this city, has used the remedy in one or two cases and expressed himself to me as highly pleased with its action. I used the drug in a 5 per cent. solution in the first case, applied to the averted lids three times a day, followed by irrigation with sterile water. In the other cases I used a 10 per cent. solution.

OBESITY CURE. — Dr. Wm. T. Cathell gives the following harmless and effective method of treatment in the *Maryland Medical Journal*, June 17, 1897: Drink a large glass of the artificial Kissingen water, kept at drug stores and other soda

water fountains, 20 or 30 minutes after each of the three meals, and a similar glass of artificial Vichy water the next day, and persistently continue to take them thus, week after week, until a medium weight is reached; after which their use should be discontinued. They may be taken at the counter, bought in syphons, or even in five or six gallon tanks to drink at home. The person should keep tally on his or her weight, bust and hip measures. If less than a couple of pounds is lost a week, squeeze a few teaspoonfuls of lemon juice into each glass of the Kissingen to increase its acidity, and add one teaspoonful of the aromatic spirits of ammonia to each glass of the Vichy to increase its alkalinity. The patient should assist by using starches, sugars, fats, alcoholics and all other fat-forming foods but sparingly; avoid over-eating, and use neither food nor alcoholics except at the regular meals; also take light suppers, so that there may be complete emptiness of the stomach during sleep, and nature may then utilize some of the surplus fat to meet the shortage. Moderate out-of-door exercise in any way that will increase and deepen the respiration should be taken. When the excess is chiefly in the abdomen, a snug abdominal supporter or a moderately tight abdominal binder, makes the fat disappear from this locality much more promptly.

THE ADMINISTRATION OF CREOSOTE.—The *Journal des Practiciens* recommends the following formula for the administration of creosote, the prescription being put up in cachets:

R Creosote,
Benzoin.....āā gr. xv
Powdered charcoal.....3 jss

Triturate the creosote and the benzoin for a moment together and add by degrees the charcoal. This mass is then to be divided into five or ten cachets, each one of which will contain a proper dose. It is claimed that this preparation is very well borne by the stomach.—*Atl. Med. Weekly.*

DIGITALIS AND STRYCHNIA IN CARDIAC AFFECTIONS.—R. H. Babcock, of Chicago, states (*Medical Standard—University Med. Journal*) that, whenever a diseased heart, which has hitherto performed its work satisfactorily, suddenly displays vagaries of action, it should not be taken unreservedly for a sign of failing compensation. Efforts should be made to discover the cause, since the correction of injurious habits, or the removal of reflex disturbances may set the heart to rights before serious damage ensues. Should the derangement of the cardiac action threaten to produce or actually cause dilatation, then, of course, digitalis and strychnine are indicated; but, so long as compensation is intact, digitalis and allied remedies should be withheld.

INFANTILE DIARRHEA.—Dr. S. M. Ward is the author of the following brief note, in *Pediatrics*, August 1st, 1897:

Unless there be some positive contra-indication, it is good practice to administer, early in the treatment of the case, a laxative, either small doses of calomel or dram doses of castor oil, etc. After free evacuation of the bowels, if the case be one of simple diarrhea, in which the stools contain neither blood nor mucus, I give to a child ten to twenty months old, one of the following powders every three or four hours:

R Bismuth. salicylat..... 3 i
Pulv. ipecac. et opii.....gr. x
Pulv. aromat..... ̄ i
Mix. Ft. chart. No. xii (12) div.

When the stools are "jelly-like," containing little fecal matter and much mucus and blood, I give with almost invariable success fifteen to twenty drops of the following:

R Hydrarg. bichloridi..... gr. ¼
Liq. potass. arsenitis.....gtt. xxxii
Syrupi rhei,
Syrupi rubiāā 3 ii
Listerineq. s. ad 3 ii

Mix. Sig. Fifteen to twenty drops every one or two hours. If there is much pain, add one-half dram of deodorized tincture of opium to this mixture.

DYSPEPSIA OF INFANCY.—Acute dyspepsia is most difficult to treat (*Pediatrics—Univ. Med. Journal*) when it occurs in nurslings under the age of three months, before which time farinaceous food is badly borne, either leaving the intestine unchanged or increasing the dyspepsia. A gruel made of ground arrow-root, maize, or rice is, perhaps, less intolerable than other form, but in many cases one is reduced to feeding the infant, for a day, at least, on thin veal-broth or egg-water (the white of one egg, with some milk-sugar, to two pints of boiled water). If this diet is properly assimilated it may be continued for a couple of days, the child then being put on to a mixture of a pint of cows' milk with 2 pints of 5 per cent. solution of milk-sugar. In some instances peptonized or albumose milk may be given with advantage.

SOME POINTS IN THE TREATMENT OF CHILDREN'S DISEASES.—E. P. Davis (*College and Clin. Rec.*, 1896, xvii, 233) gave the following points in a lecture at the Philadelphia Polyclinic:

Barley water is prepared by adding one tablespoonful of barley grains to one pint of scalding hot water, allowing it to stand and then straining; it is a valuable addition to the diet, exerting an astringent action on the bowel in case of diarrhea.

Oatmeal water is prepared by the addition of one tablespoonful of oatmeal to the pint of scalding water, allowing it to stand; strained and administered, it exerts a laxative action.

If the child vomits, is feverish, and has frequent stools, the milk should be stopped altogether for twenty-four to thirty-six hours and albumen water substituted.

Albumen water is prepared by adding the white of one egg to eight ounces of water; in addition the child should get light chicken or mutton broths or freshly extracted beef juice.

Brandy and water form a good stimulant and may be administered in ten-drop doses six or eight times a day. The

administration of a dose of castor oil, guarded by some brandy to prevent griping, is of exceeding value to clean out the irritating material from the intestines. Lavage of the intestine is of first importance in intestinal infantile disorders. It is usually accomplished by the use of a number 11 or 12 soft rubber catheter and a fountain syringe with one or two quarts of warm water. The best result is obtained if the infant is placed on its abdomen across the nurse's knee, the water being at a temperature of 100° F., and a little soda or salt added to it. Great relief is obtained from the evacuation of the flatus and feces. In chronic cases some antiseptic and astringent must be added to the water, thus:

Boric acid, $\frac{1}{2}$ ounce to the quart.

Creolin, 30 drops to the quart.

Sodium salicylate, 10 gr. to the quart.

Thymol, 1 part in 2000.

Mercuric chloride, 1 part in 10,000.

The use of the solution of mercuric chloride should be followed by irrigation with warm water; this irrigation of the intestines not only removes the flatus and feces, but exerts a stimulant action upon the bowel.

TYPHOID DIET.—Dr. F. C. Shattuck contributed a paper on this subject to the Section of Medicine at the Philadelphia meeting of the American Medical Association, from the interesting text of which we take the following practical suggestion:

A long list of permissible articles from which selection can be made for different cases, and for the same case at different times under varying circumstances can be given. That which I append makes no claim to completeness, but is meant merely to be suggestive and illustrative.

1. Milk, hot or cold, with or without salt, diluted with lime water, soda water, apollinaris, vichy; peptogenic and peptonized milk; cream with water (*i. e.*, less albumin), milk with white of egg, slip, buttermilk, koumyss, matzoon, milk whey, milk with tea, coffee, cocoa.

2. Soups: beef, veal, chicken, tomato, potato, oyster, mutton, pea, bean, squash; carefully strained and thickened with rice (powdered), arrowroot, flour, milk or cream, egg, barley.

3. Various proprietary foods and tonics.

4. Beef juice.

5. Gruels: strained cornmeal, crackers, barley-water, toast-water, albumin, water with lemon juice.

6. Ice-cream.

7. Eggs, soft boiled or raw, egg-nog.

8. Finely minced lean meat, scraped beef. The soft part of raw oysters. Soft crackers with milk or broth. Soft puddings without raisins. Soft toast without crust. Blanc mange, wine jelly, apple sauce and macaroni.

HYPEREMIA AND HYPERESTHESIA OF THE POSTERIOR URETHRA DUE TO SEXUAL EXCESS.

—This is the title of an interesting and practical paper by Dr. H. M. Christian in the July, 1897, *University Med. Magazine*. We quote the opening paragraph:

“The purpose of this paper is to describe under the above title a pathologic condition involving primarily the mucous membrane of the deep urethra and affecting secondarily in many cases the follicles of the prostate gland, dependent for its cause upon some form of sexual excess, either masturbation, excessive sexual intercourse, or prolonged ungratified sexual passion. The affection of the posterior urethra brought about by the operation of one of the above-named causes, although by no means a rare one, has, singularly enough, received but little attention in the writings of authors on genito-urinary diseases.”

Then follow diagnosis and treatment:

Diagnosis.—In forming a diagnosis of this affection the following important points should be borne in mind: (1) The absence of any history of recent gonorrhea and subsequent chronic posterior urethritis; (2) the patient gives a history of prolonged and excessive sexual abuse; (3) the presence of frequent and impera-

tive urination, accompanied in many cases with symptoms of chronic prostatitis and sexual neurasthenia; (4) examination with a bulbous bougie reveal very clearly the presence of hyperemia and hyperesthesia of the deep urethra; (5) negative results from examination for stone or stricture.

The general practitioner of medicine is very prone to apply the term “irritable bladder” to this condition. It is hardly necessary to call attention to the loose and faulty character of such a diagnosis.

Treatment.—The first and most important indication in the treatment is the absolute discontinuance of the exciting cause, whatever form of sexual excess that may be. All forms of sexual excitements must be avoided. Bicycle riding must be positively interdicted. Internally, to reduce the tendency to sexual excitement and relieve congestion of the prostate and *pars prostatica*, I have found the following prescription most valuable:

R Potassii bromid. grs. xv
Extr. ergot. fluid.,
Tincturæ hyoscyami. āā f ʒ ss
Aqueæ camphoræ q. s. f ʒ ss

This quantity should be given three times daily. Cold sponge-baths should be taken at night.

The most important feature in the treatment of these cases, and one upon which I rely most, is that which is applied locally, in the form of irrigation of the deep urethra with a solution of silver nitrate, 1-4000, increasing to 1-2000. The solution is passed into the bladder from a fountain syringe by means of a soft rubber sterilized catheter. About eight ounces of the solution is allowed to enter the bladder; the catheter is then slowly withdrawn, the solution still flowing through the eye of the instrument and irrigating the deep urethra as it is withdrawn. As the point of the catheter passes the compressor urethrææ muscle the solution flows out anteriorly along its sides and the catheter is immediately withdrawn from the urethra, as there is no necessity for irrigating the anterior portion. The patient now expels by urination the silver solution

which was allowed to enter the bladder, and by so doing still further medicates the deep urethra. This treatment should be repeated in four days. It may be still further supplemented by the passage of cold full-sized sounds.

In those cases where there is developed a chronic prostatitis the use of deep instillations of nitrate of silver, one and two per cent., have proved of great service. In very obstinate cases repeated blisters of cantharidal collodion on the perineum have seemed to me to be of great value. Applications to the deep urethra direct by means of the urethroscope have never in my hands been of any value; in fact, they have always appeared to do much more harm than good.

In summing up the various means of treatment I would state the following as giving the best results,—*viz.*, bromide of potassium and ergot internally. Irrigation of the deep urethra, in the manner described, every three or four days, together with the occasional passage of full-sized sounds. Where there is present chronic prostatitis, rectal irrigation with hot water and the daily use of a suppository containing ergotin and iodoform. Under such a plan of treatment I have seen a large number of cases of this affection, some of them very aggravated, cured in from six to eight weeks.

Dr. Christian then details several cases, one of them quite remarkable from a moral standpoint, and concludes:

"The above cases are reported as being typical and as illustrating the marked benefit resulting from the treatment employed. During the past eight years I have treated at least one hundred cases of hyperemia and hyperesthesia of the deep urethra. Of all the various methods of treatment employed during this period, the one detailed in this paper has given me the best results. I have notes of twenty cases treated in this manner. Of these sixteen were cured in about eight weeks. Four cases with chronic prostatitis were unimproved.

STRONTIUM BROMIDE IN EPILEPSY.—Roche (*Lancet*, September 26th, 1896) warmly commends bromide of strontium and reports in detail, or summary, sixteen cases. All had been previously treated with other bromides, and all showed better results from the strontium. In some instances the improvement was not marked, in others very striking. None could be considered cured, but eight of them at the time of the report had been free from fits for periods of from four to sixteen months. The ordinary plan was to give 20 grains of bromide of strontium, and 5 to 10 grains of one of the other bromides, three times a day. The strontium salt was increased to 1 dram when necessary to control the fits, and acne was prevented by the addition of arsenic.—*Med. Review of Reviews.*

THE USE OF ERGOT IN OBSTETRICS.—According to Dr. Thomas More-Madden, of Dublin, the conditions and circumstances under which ergot may be employed in obstetrics (quotes the *Univ. Med. Journal* from *The Lancet*) are (1) that the presentation may be natural or cranial, except in some instances of breech presentation, in which it may, possibly, be necessary to deal at once with uterine inertia; (2) that there should be no marked disproportion between the fetus and the mother or any other physical impediment in the genital tract to delivery; (3) that the os uteri, if not previously fully dilated, should be so dilatable as to allow of speedy extraction by the forceps when necessary; and (4) that the preparation selected, the dose, and the method in which it is employed should be well calculated to produce the required effect.

Subject to these conditions, ergot may, with utility, be employed when actually indicated and judiciously administered either before, during, or after the second stage of labor. That is to say, it may be given before the full dilatation of a dilatable os, (1) in some instances of long delay from uterine inertia in which there is imminent danger to mother or child, or

(2) risk of subsequent flooding from further protraction of the case. During the second stage it may be employed (3) in labor rendered abnormally tedious by deficiency of uterine action or otherwise complicated, and in which the presentation is natural and no other impediments to delivery exist; or (4) for the prophylaxis of apparently impending flooding. During the third stage ergot may be resorted to (5) for the expulsion of the placenta when retained by inertia, or (6) for the arrest of loss of blood. After delivery this ecboic may be employed either immediately, (7) to check or prevent hemorrhage, or subsequently (8) to produce tonic or permanent contraction, and, by sealing up the uterine vessels, thus lessen the liability to bacteriological invasion or sepsis; or else, at the same time, it may be exhibited (9) for the purpose of expelling clots from the womb and so arresting after-pains. Lastly, (10) in the majority of multiparous patients ergot may be administered during the puerperal period with the object of stimulating the muscular tonicity of the uterus, accelerating the process by which its return to a normal condition after parturition is effected, and thus obviating the future possibility of chronic sub-involution.

RECENT MEDICAMENTS.—Here are some new trade-names for old remedies; the nomenclature is extended thereby, but *materia medica* is not increased:

Alsol is now the designation for the well-known but indifferently esteemed astringent, aluminium acético-tartaricum.

Byrolin is the synonym for a boro-glycerin-lanoline compound.

Ferrosol is liq. ferri oxydati natr. saccharat., a double salt in solution, unaffected by acids, alkalies, or temperature; dose, a teaspoonful three times daily.

Omal is the euphonious title lately bestowed on trichlorphenol.

There are other ingenious introductions of the same class, unnecessary to record; these names need not be used, and they should not complicate medical literature.

ON THE DIURETIC ACTION OF LACTATE OF STRONTIUM.—Bronowski conducted experiments and observations (*Medycyna*, No. 1, 1897—*Univ. Med. Journal*) upon this agent, and reached the following conclusions:

1. Being introduced into the circulation of animals, it does not raise the general blood-pressure; on the contrary, diminishes it.
2. Introduced into the blood in overdoses, in proportion to the weight of an animal (more than 0.07 per kilo), it irritates the kidneys.
3. Its diuretic action depends most probably upon the dilatation of the vessels of the kidneys.
4. The increased diuresis is not at all provoked by the action upon the epithelium of the kidneys.
5. Clinical observations prove that lactate of strantium has a favorable influence on albuminuria and diuresis.

The author therefore recommends its use.

PAMPHLETS RECEIVED.

Feeding in Early Infancy; by ARTHUR V. MEIGS, M.D. Philadelphia: W. B. Saunders, Publisher. (Price, 25 cts.)

Surgical Hints; by HOWARD LILIENTHAL, M.D. New York: International Journal of Surgery Co., Publishers. 1897.

Warner's Pocket Medical Dictionary of To-day (10,000 definitions; over 300 pages; pocket size). Philadelphia: Wm. R. Warner & Co., Publishers. (Price, 75 cts.)

The Action of Taka-Diastase in Various Gastric Disorders; by JULIUS FRIEDENWALD, M.D., of Baltimore. Reprint, 1897.

Sterilized Gauze in Pelvic Surgery; by THOMAS H. HAWKINS, M.D., of Denver, Colo. Reprint, 1897.

The Technique of Blood Study and Experiments in the Physiological Chemistry of Leucocytes; by A. MANSFIELD HOLMES, M.D., of Denver, Colo. Reprint, 1897.

Original Methods for Detecting and Measuring Abduction and Adduction of the Tigh; by PHIL. HOFFMANN, of St. Louis. Reprint, 1897.

THE MEDICAL GAZETTE PUBLISHING Co., of Cleveland, Ohio, announces a small volume soon to be issued with the title "About Children." The author is Dr. Samuel W. Kelley, of the Cleveland College of Physicians and Surgeons. The book will contain six lectures filled with information for nurses, medical practitioners, students, and all who have the care of children. Advance orders will be filled in September.

The American Therapist.

A MONTHLY RECORD OF MODERN THERAPEUTICS,

WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

VOL. VI.

NEW YORK, SEPTEMBER 15th, 1897.

No. 3.

Original Articles.

TANNIGEN.

By Dr. A. L. BENEDICT,

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The profession has learned quite thoroughly that the old-fashioned and strictly allopathic method of stopping an acute diarrhea, is not based on rational conceptions, and that the indication is to remove the source of irritation and self-intoxication, and thus allow the diarrhea to cease spontaneously. But in the case of more chronic conditions, the need of astringents is still felt. Even if a chronic diarrhea were usually due to some quality of the intestinal contents, it would be inadvisable to resort to frequent purgation. An analogy may be drawn between this condition and the disturbance caused by fermenting food in dilatation of the stomach. In the latter condition, there is a theoretical indication to cleanse the stomach by lavage, at the first appearance of symptoms of fermentation and irritation. But there is also a very practical contra-indication to starving the patient as would result from the consistent and persistent observance of this indication. Likewise, the indication to save the intestine from the irritation of its contents must be overriden by the absolute necessity of allowing the system to assimilate sufficient nourishment, in spite of the sufferings of the bowel. Again, we must grant that chronic diarrhea is seldom due to a present abnormal state of the intestinal contents. True, the diarrhea may be relieved by keeping the intestine nearly empty, but the cause of the trouble must be looked

for in the past, and whatever marked abnormality may be found in the examination of the intestinal contents, is a result, not a cause.

Therefore, there exists a positive and rational indication for the use of astringents in the treatment of chronic diarrhea, at least if we use the word *astringent* in the purely clinical sense of something that will control a discharge. The cases of chronic bowel trouble—disregarding, of course, constipation—which are common in my experience, may be divided into three classes: 1. Those in which constipation alternates with diarrhea, the latter being marked by a liquid, usually offensive, discharge containing scybalae. Such cases illustrate the paradox of a diarrhea directly due to a state of constipation. 2. Those characterized by a pseudo-membranous discharge, with a variable state of the feces themselves. Not infrequently, such cases are literally not diarrheic at all but may be attended by a normal or diminished frequency of movements. The pseudo-membrane looks like a cast of the bowel, and is usually so considered by superficial observers; but if we use the word “pseudo-membrane” in the limited sense insisted on by many pathologists, the discharge might be spoken of as pseudo-pseudomembranous, since microscopic examination reveals almost nothing but mucus or pus cells, with an occasional detached epithelial cell or group of cells. In no true sense is this discharge a cast of the colon, although I have had a specimen sent me from another state, as well as several from Buffalo and vicinity, to support the previous diagnosis of exfoliation of the mucous membrane. The existence, however, of genuine cases of such

shedding of large pieces of the mucous coat, is well established. 3. Those characterized by the more or less frequent discharge of gelatinous mucus, almost unmixed with feces, varying in quantity up to half a pint, usually described as following an ordinary passage, and as unattended by odor or other evidences of marked fermentation in the intestine.

I have described these three types, entirely from the clinical standpoint. The true pathological diagnosis must be made from a further study of the case. Thus, in two cases of the mucoïd type, there has been a quite definite history of syphilis and local lesion of the rectum has been as positively excluded. In one of the cases of the pseudo-membranous type, the patient had been poisoned with arsenic through the mistake of a drunken physician, and there had persisted some ulceration of the rectum with a rather tight cicatrix about three inches from the anus. The history also pointed plainly to an acute toxic, hemorrhagic colitis, probably accompanied with similar lesions higher in the alimentary canal. Nor must we forget that mucus is very commonly found in feces without being collected into unmistakable masses. I must also explain that I have never seen a case of dysentery in Buffalo—using the word “dysentery” in its correct sense of a definite acute bacterial colitis—unless cases of typhoid with lesions extending to the colon be so considered. Physicians practicing in parts of the country in which serious acute diarrheal diseases are common, will probably differ materially in their experience with corresponding chronic conditions.

Until the last year, I have treated cases of chronic diarrhea on the lines of intestinal antiseptics, asepsis by means of borax or boric acid enemata, and the use of internal astringents, chiefly bismuth subcarbonate, in at least gram doses (not grain) administered three or four hours after each meal. My favorite bismuth preparation, however, is a ten per cent. emulsion of the freshly precipitated hyd-

rate, in pure petrolatum. This is rather difficult to procure from the average pharmacist. Without, by any means, abandoning these lines of treatment, I have been surprised at the satisfactory results frequently obtainable from the use of tannigen, without subjecting the patient to the inconvenience of local treatment or even the home use of enemata.

Miss C. L., aged 32, nurse, but much in the open air, had suffered for several years from recurring diarrhea. About once a year she would have a severe attack marked by bloody stools, but without tenesmus or other indications of local rectal disease, such as hemorrhoids. Although the feces were not usually especially offensive nor liquid, there would be four or five discharges a day, with considerable mucus and undigested food. There was much gas formation, both in the intestine and the stomach, and the effervescence test showed the lack of normal acidity. Some months previously, I had suggested the use of hot water injections, but the patient had not been formally under my care, although she had used the injections quite frequently and with apparent relief. On November 27, after a more careful consideration of the case, I prescribed hydrochloric acid and one gram tannigen powders, to be taken three hours after eating. Very moderate regulation of the diet was ordered. On December 2, the patient reported complete relief from the diarrhea, and, as the gastric symptoms were less troublesome, the hydrochloric acid was reduced. On December 12, a slight return of the diarrhea was reported, and tannigen was administered for another week. On August 4, the patient returned, saying that she had been almost free from the trouble till very recently, a few mild attacks of diarrhea in the spring having yielded to the use of injections and hydrochloric acid. The tannigen was repeated, along with strychnine and hydrochloric acid for the stomach. Since then the patient has experienced a relief of the symptoms.

Sometimes, even in the absence of mucous discharges, and when the diarrhea is of a decidedly fermentative type, small doses of tannigen may act well, because they are antiseptic as well as astringent. Or the antiseptic action may be reinforced by another drug. For instance, A. C., a student, complained of having one or two liquid and irritating passages daily, with foul odor and much gastro-intestinal flatus. In his case, which could not be ascribed to an obvious dietetic error, hydrochloric acid was administered, along with powders containing twenty-five centigrams each of tannigen and salacetol.

W. D. W., a young man, complained of moderate diarrhea occurring at intervals for two years. His latest attack was already of two or three weeks' duration, and could be ascribed to nothing more tangible than change of residence and of water. It is not entirely local pride but some study of geographic hygiene that makes me believe that the change was, on general principles, decidedly for the better. Benzo-naphtol and borax injections relieved him, but his trouble persisted in mild form for over a month. Just about as he thought himself cured, he went home for a week's vacation, and a diet of fatted calf with Susquehanna water resulted in an almost immediate return of the diarrhea, with four or five passages daily. Tannigen in twenty-five centigram doses soon brought relief, but not permanent, as the patient reappeared seven weeks later—having been without medicine for about five and a half weeks—asking for further treatment. Tannigen was continued for two weeks, and no further trouble was experienced for two months. Since that time I have heard nothing from the patient.

The second case illustrates very well the occasionally justifiable use of this astringent in fresh cases, while the last case illustrates its efficacy in more chronic cases, but still without typical intestinal blenorrrhea. I have also used it in young women who

have diarrhea due to the entrance of fermenting chyme into the intestine from a stomach which was not secreting sufficient acid, and which was also, in some instances, dilated. One of these patients complained that the powders produced diarrhea instead of checking it, but she was one of the kind that would frequently get the reverse action to that expected from a drug.

It must not be expected that tannigen will be absolutely curative in many of the cases in which it is a valuable remedy. Sometimes a very transient relief of diarrhea, however secured, allows a surprising degree of spontaneous recuperation, so that the patient is really cured. More frequently the patient will have to return for treatment, and will need remedies directed toward the stomach or more markedly antiseptic than tannigen. Demulcents, such as mineral oil and bismuth, and local measures are also of undiminished usefulness. Of the intestinal antiseptics, I prefer salacetol as safe and efficient. Benzonaphtol is too expensive for many patients, and is, in my experience, not so efficient as its chemical constitution would lead us to suppose.

*PUERPERAL SEPSIS.**

By J. M. KRIM, M.D., Louisville, Ky.

Three weeks ago I was called to see a lady about to be confined, utero-gestation being within four days of completion, according to the history. She had a trained nurse from the day I saw her, all precautions being taken to insure a clean delivery. She married at the age of thirty-five, this being her first child. I delivered her on Friday morning about six o'clock. There was nothing unusual connected with the labor; it was not prolonged considering the fact that she was a primipara; I think the whole time occupied about twelve hours. She rallied very nicely, but

* Reported to the Louisville Clinical Society, and contributed exclusively to the AMERICAN THERAPIST.

the following morning there was a fetid discharge from the vagina. I could not account for it, as all precautions had been taken to prevent any infection; hot sterilized water was used as an injection twice daily for a few days prior to labor, so as to make everything aseptic; no digital examination was made until about half an hour before the birth of the child, only external examination being made previous to that time. Her temperature was normal the evening of delivery, but the next morning it was 104° F. She had a stormy convalescence, and it was fully three weeks before her condition became normal.

The question that naturally arises is, what was the nature of the infection, and how did it occur?

DISCUSSION.

Dr. Louis Frank.—I desire to commend Dr. Krim for his frankness in reporting the case; it is rare for such cases to be reported before this or any other Society. The predominant idea is for a man to protect himself. Much good would result by discussing, frankly, cases of this character more frequently. There can be but two sources of infection in any puerperal case; one source is by auto-infection, from the woman herself, which I take it is exceedingly rare and would probably only occur in those cases of malignant disease, or other infectious trouble. In other words, where infection exists previous to the labor. The other source is from persons coming in direct contact with the case. This may be either the doctor or the nurse. In the case Dr. Krim has reported, I believe the trouble was puerperal sepsis infection resulting from the most virulent sort of organisms which were introduced probably at the time of labor or a short time preceding it. This is evident by the temperature range and the rapid onset of the trouble.

One source of infection, it seems to me in this cases, is the ante-partum douche. I desire to put myself on record as being

decidedly opposed to ante-partum douches unless there is positive evidence of specific trouble existing previous to the labor. This is undoubtedly a frequent source of infection, in puerperal cases, and the douche as ordinarily carried out by the trained nurse is of much more detriment than it is of benefit. I can see no object in the ante-partum douche in private practice in cleanly patients. It is remarkable sometimes how patients will pass through the parturient period without infection, the labor taking place in the presence of the most unfavorable sanitary and hygienic surroundings.

I am sure that Dr. Krim, considering the precautions he observed, did not infect the woman in the case he has reported, but the trouble was due to the nurse. It is surprising how careless nurses sometimes are in the management of puerperal cases. In preparing for an operation I have seen the nurse observe the most rigid precautions as regards washing her hand, etc., then pick up a towel, syringe, instrument or something else that had not been sterilized. It is a most difficult matter to make a nurse understand the rigid precautions which must be carried out, and I think to the nurse are due the cases of sepsis which we often see. They will frequently take a new syringe and use it without previously sterilizing the nozzle. The nurse will sterilize the syringe and forget all about the nozzle. In Dr. Krim's case I believe infection occurred from the douche given by the nurse previous to the delivery.

Dr. J. M. Krim.—Douches were employed previous to labor because she had some leucorrhœal discharge; a new syringe was used which had been purchased for that purpose, and it was thoroughly sterilized. So far as the nurse is concerned, I am certain she was as careful as anyone could be; she was properly instructed, and was efficient and painstaking. I am sure she carried out instructions, and that everything was aseptic. I thought perhaps infection in this case

was due to some previous condition of the endometrium.

Dr. Louis Frank.—There is one thing which makes it seem to me that the poison was introduced at the time or just previous to labor, *i. e.*, the fact that evidences of sepsis came on so rapidly and the character was so virulent immediately after completion of the labor.

Again touching the point of douching: I believe the douche is of absolutely no benefit as it is usually given. We do not reach every part of the vagina, and it is impossible by this means to render the vagina aseptic after it has become infected. To render it aseptic every little crevice or depression would have to be reached with the nozzle of the syringe, and it is impossible to do this.

TONSILLOTOMY.*

By WILLIAM CHEATHAM, M.D.,

Professor of Ophthalmology, Otology and Laryngology in the Louisville Medical College, etc., Louisville, Ky.

This specimen itself is of much interest. The patient was a young lady aged twenty-eight years, who had a tonsil that had been giving her a great deal of trouble, it being sore all the time. She has been under my observation for two or three months. The tonsil was swollen and she could swallow only with considerable effort. She was placed upon tonics, iron, etc., and local applications were also made to the tonsil, which showed an exudation of grumous looking material, by the continued swallowing of which the stomach was kept upset.

To-day I attempted to remove the tonsil with Jarvis' snare with the cold wire. My reason for adopting this method was the danger of hemorrhage. I encircled the tonsil with the wire and worked it up a certain distance, then found I could not go any further, the wire refusing to cut; the tonsil seemed to be hard, almost like bone; I took a pair of pliers to turn the

screw of the snare. I then took my tonsillitome and thought I would cut close to the wire and protect any bleeding from the tonsil; in my efforts to make the cut the blade of the tonsillitome was broken; I then took a strong volsellum forceps and tonsil knife and succeeded in removing the tonsil. I think there must have been a concretion in it. You will observe some calcareous spots in the specimen. There was no hemorrhage during or after the operation. As I said before the age of the patient and the condition of the tonsil, it being very hard and firm, is why I tried to use the cold wire in removing it.

(1) SARCOMA OF THE TESTICLE. (2) VESICAL CALCULUS.*

By WILLIAM L. RODMAN, B.M., M.D.,

Professor of Surgery and Clinical Surgery in the Kentucky School of Medicine; Surgeon to the Kentucky School of Medicine Hospital; Surgeon to Sts. Mary and Elizabeth Hospital; Consulting Surgeon to the Louisville City Hospital, etc., Louisville, Ky.

I have here a tumor of the testicle removed from a man aged thirty-three years, with the following history: Five years ago he noticed an enlargement of the right testicle; it was a painless tumor, grew slowly, seemed to contain fluid, and was tapped with a trocar by a physician in an adjoining town, also later by two excellent physicians in Mount Sterling, Ky., to whom he was taken in consultation. Neither of the tapplings showed fluid, and on account of the seeming complete history of benignity, I thought I had to deal with an enchondroma. It was removed last Thursday, and was submitted to microscopical examination; I am now told that it is undoubtedly a large round celled sarcoma; I am glad now that I removed the tunica vaginalis as well as the testicle itself, for by so doing of course I have lessened the chances of recurrence. There were no enlarged glands whatsoever. There were no enlarged veins, or anything indeed to indicate malignancy.

* Reported to the Louisville Surgical Society and contributed exclusively to the AMERICAN THERAPIST.

*) Reported to the Louisville Surgical Society, and contributed exclusively to the AMERICAN THERAPIST.

As I have said there never was at any time any pain except the dragging sensation or inconvenience caused by the presence of the growth.

The patient has done perfectly well since the operation; the wound has united by first intention; it was dressed to-day; there is no granulation, and the entire aspect is perfectly healthy.

I was very much surprised at the report made by the microscopist, as I was reasonably sure the growth was benign, and while it is pathologically a malignant growth, still clinically I am of the opinion yet that it is perfectly benign. We know that many sarcomata run a practically benign course.

Case 2.—The next specimen is a phosphatic calculus removed from the bladder of an old man, past sixty-one, with the following history: Ten years ago he had evidences of kidney trouble, as shown by ascites—anasarca—lasting for some time. Five years ago decided bladder trouble began, which has steadily increased up to the present time. He passed water every few minutes during the day, and had to get up twelve or fifteen times during the night. I made the probable diagnosis of stone in the bladder, also enlargement of the prostate gland. At the same time I operated for the calculus I expected to do a prostatectomy, and so explained to the patient. He was operated on last Friday by the supra-pubic method. A stone was found low down in the bladder, just over the situation of the prostate gland, and it was due to this location of the stone, and to the enormous hypertrophic condition of the bladder walls, the thickest I have ever seen, that I was mistaken in the diagnosis of enlarged prostate. I found the prostate gland practically normal. It was somewhat enlarged on the left side, but not enough to justify a prostatectomy. On account of the disease of the bladder, I felt that the danger would be lessened by doing a perineal section, so it was done. I then introduced a large Nelaton catheter into the bladder through the

supra-pubic wound, and to the end of this was attached a long rubber tube. I have never seen as perfect drainage after supra-pubic cystotomy as there has been in this case. The dressings put on at two o'clock in the afternoon were not soiled the next day at ten o'clock, when the case was again dressed; meantime he had passed through the tube about a quart and a half of urine. The same condition remains to-day. A dressing put on in the morning will not be soiled the following morning. Drainage is absolutely perfect. He has had no bad symptoms since the operation, and I am glad to say he has secreted a large quantity of urine. I was apprehensive before operating—the urine having shown a great many casts and evidence of trouble higher up in the kidneys—lest suppression might follow upon any vesical manipulation.

REMARKS.

Dr. W. O. Roberts.—I have never done a combined operation with drainage from both above and below, as have always secured sufficient drainage from above after supra-pubic cystotomy. I operated on a case not long ago for enlarged prostate, and thought before the operation, while the man was on the table, that I detected a stone in the bladder. On opening the bladder I found an old clot that was covered with phosphatic deposit; it was not a regular stone, but it was the roughness of this phosphatic deposit that caused me to think there was a stone in the bladder. After removing this and washing out the bladder thoroughly, I also found an enlargement of the prostate, especially the middle lobe; it was about the size of the first joint of my finger. This man had been unable to pass water for some time, and had been using a catheter. I removed a portion of the prostate gland and drained the bladder supra-pubically for several months, then allowed the opening to close as he began to pass water through the urethra. Since then the supra-pubic wound has entirely healed, and he is now passing his urine naturally.

Dr. Jas. S. Chenoweth.—I was struck with Dr. Roberts' statement that we frequently find recurrence of stone in the bladder, especially after the supra-pubic operation; also that he believed he secured perfect drainage from the supra-pubic wound. I have never been able to convince myself that drainage from the supra-pubic opening was ever perfect, without some form of siphonage. In one case where I removed a soft crumbly stone from the bladder by the supra-pubic method, I kept up drainage by the intermittent siphon for several weeks. On two or three occasions the nurse disarranged the tube and the siphonage stopped. Every time the siphon stopped working I would get a half pint of grumous stuff out of the bottom of the bladder, and found the tube caked with phosphatic deposit, and believe there would have been the formation of secondary stone in the bladder except for repeated irrigation and drainage by the siphon arrangement.

Another point, in regard to the cystoscope for the purpose of diagnosis, also for determining the method of operation; I will show at the next meeting two or three stones removed from the bladder, in which cases the cystoscope was used. One case had been sounded by Dr. Cartledge, myself, and by another doctor, without the stone having been detected. The cystoscope revealed quite a large stone in the bladder, and it was rather remarkable that we had been unable to locate it with the sound previously. The doctor who sent the patient here wrote me that he certainly had no stone, as he had sounded the bladder thoroughly. We sounded him without anesthesia. The cystoscope revealed a stone as large as a walnut in the bladder, and by means of this instrument the size of the stone could be mapped out, its location, etc., and I determined that the supra-pubic operation would best suit the case. This is one advantage of the cystoscope; we can determine the size and location of the stone, and judge whether the supra-pubic or the perineal operation is indicated. I have done this in several other instances with the most satisfactory results.

ALUMNOL IN THE UPPER RESPIRATORY TRACT.

By Dr. JOHN H. METZEROTT, Washington, D. C.

An experience of nearly two years with alumnol in the treatment of diseases of the upper respiratory passages has satisfied me of its great value as an astringent. I have used it in varying strengths as a gargle, in the spray, the steam atomizer and the laryngeal syringe, with the greatest satisfaction to myself and patients, in the treatment of both mild and severe forms of acute and chronic laryngitis, in pharyngitis, tonsillitis, peri-tonsillitis and edema, syphilis and tuberculosis of the larynx.

In a case of symptomatic edema of the larynx accompanied with a perichondritis of the crico-arytenoid cartilages in which there was stenosis of a most severe grade, I was able by means of solutions of alumnol, administered in the form of injections and the steam spray, to defer the performance of tracheotomy for a period of six months. In this particular patient it was really remarkable how quickly the inflammatory edema would be reduced by one or two injections of a solution of alumnol into the larynx, and maintained for a longer time by inhalations of vapor charged with the same remedy. Indeed, it was a pleasure to behold with the laryngoscope how rapidly a laryngeal image of swollen ventricular bands and injected and tumefied vocal cords would change to a picture almost normal. It is immaterial whether this particular case to which I have just alluded was due to cancer, tuberculosis or what it has the clinical appearance of being now, syphilis, the fact remains that a most powerful impression was made upon the accompanying inflammatory edema, which at the time I took charge of the patient was of such a degree that I myself and the attending physician regarded the case as hopeless without the performance of tracheotomy. What is

also pleasing to record in this case, is that notwithstanding the steam spray was kept going for months, and injections were given daily, there were no bad effects from using the alumnol.

In a case of sub-glottic laryngitis accompanied with that wave-like fluttering of the vocal cords, a condition usually very stubborn to treatment, I was able to relieve my patient, a singer, in a very short while by using nothing but alumnol in the spray.

In another case of chondritis nodosa (singer's nodules) I was able to dispense with instruments by employing strong solutions of alumnol.

THE USE OF BENZOSOL IN PHTHISIS.

By MARK A. BROWN, M.D.,

Late Resident Physician at the Cincinnati Hospital.

The reported good results from this drug, obtained in various hospitals throughout the country, in the treatment of phthisis, led to its use in a number of cases of this disease in the Cincinnati Hospital during the summer and fall of 1896, in the service of Drs. Geo. Fackler and E. W. Mitchell. While in no case did this drug act as a specific in tuberculosis, yet in many, all in fact in which this complication existed, the gastro-intestinal symptoms were markedly changed for the better; and in this way, by limiting vomiting, by lessening the number of stools, by changing the character of the stool from watery to a rather firm consistency, the lives of a number of patients were prolonged; not only this rather doubtful benefit, but the relief afforded by checking the diarrhea, made them more hopeful of the future and banished a mental despondency that was fast making them cease to struggle.

In the two cases in which a fatal termination supervened, the abolition of diarrhea was the most striking result of the treatment; the stools diminished from six

to eight per diem, to one or two. It is but fair to say that these fatal cases had well marked signs of cavity formation when the treatment was instituted.

Two cases of the incipient form of phthisis, who were reported "discharged well," had entered the hospital complaining of diarrhea, and had made no mention of any pulmonary trouble.

The experience, then, would only go to confirm what is being reported by others, that benzosol is an intestinal antiseptic, and that the good results obtained in phthisis are due mostly to its beneficent action on the gastro-intestinal tract.

Chemically, benzosol is a benzoate of guaiacol, and it is probably due to the presence of the latter, that such good results were expected of it in the treatment of tuberculosis.

It is best given in from five to ten grain doses, three times a day, a quarter of an hour after meals.

POISONING BY HYDROCHLORIC ACID.—The cases of poisoning by hydrochloric acid are rare, the general literature containing not many more than forty cases. Dr. Lande describes a case (*Gazeta Lekarska—Univ. Med. Journal*) of a woman, of 50 years, who, by mistake, drank about one tablespoonful of pure muriatic acid. Besides burning and pain in the stomach, vomiting, diarrhea, and cramps in the lower extremities, there were observed: (a) Absolute loss of tendinous reflexes on the first day of poisoning; this symptom, which disappeared on the second day, has not thus far been observed; consciousness was complete. (b) Entire absence of injury of mucous membrane of the mouth. (c) Albuminuria, the sediments of the urine containing numerous hyaline and granular casts and purulent corpuscles. (d) One day's fever (38.8° C., 102° F.) on the sixth day of the disease, without any apparent cause.

The author warns against the incautious administration of hydrochloric acid, especially in children.

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Subscription Price, - - \$1.00 per annum.

PUBLICATION OFFICE, 73 to 79 FULTON ST., NEW YORK.

Address all communications to

THE AMERICAN THERAPIST,

P. O. Box 1170.

New York City.

Vol. VI. SEPTEMBER 15th, 1897. No. 3.

Editorial.

LEGITIMATE PHARMACOLOGY.

The *Dominion Medical Monthly*, in a complimentary editorial welcome to a new contemporary, expresses views on proprietary and trade-marked preparations which, to say the least, prove that the editor lacks discrimination. He ascribes the whole trouble to "the craze for German synthetic remedies," and accuses the misguided "hundreds of young graduates who have gone from the American universities to complete their medical education in Europe" of coming back "syntheto-maniacs."

"All these preparations were either patented or trade-marked and medical literature was flooded with the papers of these gentlemen, and *legitimate pharmacology* fell into disrepute." The editor's idea of a synthetic preparation, is something "with a sufficiency of groups artistically arranged in such a manner that a chemist could tell nothing about them, and the prescriber less."

We presume the author mentally thanked Providence that he did not go to Europe to complete his education.

It is regrettable that "artistically arranged groups" should bewilder a writer on a journal edited by a F. C. S. (Lond.)

Antipyrin, phenacetin, saccharin and sulphonal, all patented and trade-marked, and with "artistic groups," are official in

the British Pharmacopeia; the German Pharmacopeia includes these, and also chloralamid; even the U. S. Pharmacopeia admitted one of this class of drugs, salol. When new editions of the various standard Pharmacopeias appear many of these "synthetics," now accurately described in all text-books on chemistry, pharmacology and therapeutics, and in extended use everywhere, will become official.

Despite the "artistic groups," so unintelligible to some writers for the medical press, these products are definite chemical compounds, of uniform composition, with physiologically proved actions, and with valuable therapeutical agents. They are legitimate members of *materia medica*, and their introduction during the past fifteen years marked a notable advance in scientific therapeutics.

The patents which cover the production of these drugs are short-lived; the copyright on a medical book lasts longer.

As for "legitimate pharmacology," reference to any standard work (such as Schmiedeberg, Murrell, Wood, and others) will show that the leading authorities devote careful study to these products, and that experience has already made most of these products available for scientific application in the treatment of diseases.

INFANTILE SCURVY.

We print herewith a circular request of a special committee of the American Pediatric Society, for reports of cases of infantile scurvy. The success and exceptional value of other recent collective investigations of this Society entitle the present request to prompt and liberal attention. We trust that those of our readers who have, or have had, such cases as are desired, will communicate with the committee at once.

CIRCULAR.

The American Pediatric Society is making a Collective Investigation of Infantile Scurvy as occurring in North America, and earnestly requests the cooperation of physicians, through

their sending of reports of cases, whether these have already been published or not. No case will be used in such a way as to interfere with its subsequent publication by the observer. Blanks containing questions to be filled out will be furnished on application to any one of the committee. A final printed report of the investigation will be sent to those furnishing cases.

[Signed.]

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Committee.

Current Literature.

TREATMENT FOR WHOOPING-COUGH.—We learn by way of the *Chemist and Druggist*, that Dr. Leuriaux, who has made whooping cough a special study, has addressed a paper on the subject to the Paris Academy of Medicine. The result of his researches shows that the treatment should be purely local and antiseptic. He recommends naso-pharyngeal insufflations of a powder composed of sulphate of quinine (4 parts), resorcin (1 part), and white powdered sugar (25 parts). Insufflations should be taken five or six times a day, preferably after a fit of coughing. The Academy referred the paper to a committee to study the question.

POULTICES IN BRONCHITIS AND BRONCHOPNEUMONIA IN CHILDREN.—A. W. Senior states, in *British Medical Journal*, April 3, 1897 (*Universal Medical Journal*), that poulticing of the chest in bronchitis and broncho-pneumonia is unscientific and prejudicial to the welfare of the patient. The difference in the temperature of the poultice when applied and when removed is such that one might as well be continually moving the child from a warm room out into the cold every few hours. The weight of the poultice must also be taken into consideration. The disadvantages of poultices more than counteract any beneficial influence they may have.

THE TREATMENT OF ACUTE BRONCHOPNEUMONIA IN CHILDREN.—Dr. Legendre (quotes the *Amer. Journal Med. Sci.* from *Bulletin Gen. de Therap.*), states that fresh air in the sick-room is important, and water should be kept boiling to which antiseptic substances should be added, as carbolic acid, tincture of benzoin, or eucalyptus leaves. The decubitus should be frequently changed; in the case of larger children, they should be kept in a half-reclining posture. During the active period nauseating drugs, as the antimonials (kermes mineral and tartar emetic), senega, and ipecac; stupeficients, as aconite and opiates; sudorifics and diuretics, as ammonium acetate and jaborandi, should be avoided. Blisters should never be used. The therapeutic indications are based upon the congestive forms of asphyxia or upon the cardiac paralyses, or when there are nervous symptoms — dilirium, convulsions — or when there is insufficiency of nutrition. To prevent active hyperæmia cold-packs over the chest are employed until the number of respirations falls one-fourth, one-third, or even to one-half of their former frequency. For cardiac paralyses caffeine holds first rank, given hyperdermatically, as often and in as large doses as is necessary, avoiding cerebral excitement, headache, and insomnia by dividing the doses. Next comes digitalis, slow in its action, but more lasting. Sparteine and strychnine are useful for combating weakness, as is also alcohol, in its various forms.

HOW TO STOP THE INFLAMMATION FROM VACCINATION WHEN RUNNING TO EXCESS.—*Archives of Pediatrics* quotes from a report by R. Clement Lucas in the *British Medical Journal*:

Now that direct calf-lymph vaccination is generally advocated, and it is admitted that inoulation from this source is commonly followed by more severe local and general inflammation than arm-to-arm vaccination, it may be well that a means of cutting short the inflammation should

be known to every practitioner. This is the more important since the organization of a blind and bigoted Society is ever on the alert to make capital and sensation out of any case not following a regular course. Should, then, the vaccination pustules on the twelfth or fourteenth day tend to become confluent, while the inflammatory areola tends to spread beyond the usual limits, the glands in the axilla to enlarge, and the arm, perhaps, to become edematous, the author suggests that the area of the pustules should be powdered over with iodoform, and a sterilized dry pad be applied to keep the powder in position and the pustules from friction. In this way the process is completely checked in twenty-four hours. The pustules dry into a cake, the redness subsides, the glands decrease, and the edema of the arm rapidly disappears. This is in every way preferable to hot fomentations or antiseptic moist applications, which, apart from the difficulty of applying them to an infant, involve the healing of open wounds.

TREATMENT OF CONSTIPATION IN INFANTS.—

We quote, from the *Therapeutic Gazette*, this extract from a practical article under above title in the *Journal des Practiciens*, Jan. 9, 1897: It deals, first, with the local accidents which may produce constipation, calling to mind the fact that purgatives should not be given until we are confident that umbilical or other hernias do not exist. It may be, too, that prolapse of the rectum or an annal fissure may be a factor to be considered. It is not to be forgotten, also, that fever and cutaneous eruptions sometimes arise in children as the result of constipation. An important factor to be considered in treating these cases is that of heredity and conformation of the intestine. Children of gouty parents frequently suffer from atonic bowels, and in other cases the intestines and abdominal wall seem to be so relaxed as to predispose to this condition. The employment of sterilized

milk also favors constipation, and the administration of farinaceous articles too early in life, by provoking dyspeptic troubles, may either result in diarrhea or constipation. The question of modifying the diet of the child, therefore, is of very great importance. If old enough to receive vegetable substances they should be given Graham bread, which leaves a large residue; the ordinary vegetables, such as string-beans and peas, and from time to time mild laxative substances, such as manna or cascara, should be given. Frequent exercise in the open air is also a necessity. Very frequently adding a little sugar to the milk, if the child is fed on sterilized milk, will prevent it being so constipating in its effects. Massage of the abdominal area gently applied for a number of minutes morning and night, the skin being rendered oily by the use of vaselin, is also a method which is not to be forgotten. During the massage the fingers should knead the intestines as much as possible. Castor oil and magnesia, while active in moving the bowels, tend to produce constipation to a greater degree after their effects have passed off, although the author of this article believes that calcined magnesia is a useful substance to overcome dyspepsia and to move the bowel in certain cases. In other instances suppositories and rectal injections produce the best results, particularly suppositories that are made of glycerin. The quantity of liquid that should be used as an injection varies, but ordinarily one or two ounces is sufficient in young children; and if the bowel is not active, cold water may be used in place of warm water, and the action of the injection may be increased by the addition of two or three dessertspoonfuls of oil of sweet almonds.

FERRATIN IN ANEMIC DYSPEPSIAS.—Dr. Elbridge G. Cutler, of Boston, in an excellent paper, entitled "General Remarks on Gastric Dyspepsia," read before the Massachusetts Medical Society, June 8, 1897,

and published in the *Boston Medical and Surgical Journal*, Sept. 9, 1897, advises the use of ferratin to increase the hemoglobin. In examining a patient, "the relation or dependence of dyspeptic conditions on other local diseases or general disturbances" should be found. The lungs and the urine should be examined; the hemoglobin should be estimated weekly, and the patient weighed; and if diet, control of daily life, etc., do not increase the hemoglobin, then ferratin should be used to aid the other measures.

DYSPEPSIA IN INFANCY.—Acute dyspepsia is most difficult to treat when it occurs in nurslings under the age of three months (*Pediatrics—Univ. Med. Journal*), before which time farinaceous food is badly borne, either leaving the intestines unchanged or increasing the dyspepsia. A gruel made of ground arrow-root, maize, or rice is, perhaps, less intolerable than other forms, but in many cases one is reduced to feeding the infant, for a day, at least, on thin veal-broth or egg-water (the white of one egg, with some milk sugar, to two pints of boiled water). If this diet is properly assimilated it may be continued for a couple of days, the child then being put on to a mixture of a pint of cows' milk with 2 pints of 5 per-cent. solution of milk-sugar. In some instances peptonized or albumose milk may be given with advantage.

IRON AND MANGANESE PEPTONATE.—Of the specific effect of iron in relieving "blood poverty" there can be no doubt. It is one of the oldest of empirical remedies, and modern research has made its administration a scientific certainty. The preparations of iron in general use are numerous; a novelty among new preparations is the compound of iron and manganese introduced some years ago by Dr. A. Gude, of Leipsic. The value of this combination has been proved by ten years experience, and the fact is attested by direct and veiled endorsements running

through all medical records of the subject during the last few years. Gould's American Year-book of Medicine, 1896, quotes an endorsement (p. 456), and similar references can be found in other annuals and medical publications.

An important report was published recently by Prof. von Ramdohr (*N. Y. Med. Journal*, June 26, 1897), quoting details of nineteen cases of gynecological operations, at St. Marks' and the Post-Graduate Hospitals, where Gude's preparation, known as Pepto-Mangan, was employed with "highly beneficial" results as the "quickest acting tonic to counteract anemia." The author concludes "that (1) it is beneficial to immediately put a patient on whom an operation has been performed on the use of an easily assimilated iron preparation, and (2) pepto-mangan seems to be such a rational ideal pharmaceutical preparation."

Another recent clinical report is that of Dr. Gellhorn (*Therap. Monatshefte*, May, 1897), who speaks of sixty cases of anemic conditions treated with pepto-mangan, obtaining "all that can be rationally demanded" from this "most efficient and useful auxiliary to our therapeutic efforts."

Dr. A. H. Roler details five cases of anemic young women (*Chicago Medical Recorder*, June, 1897), successfully treated with pepto-mangan.

Dr. Henry A. Johnston, in *Archives of Pediatrics*, August, 1897, describes three cases of anemia following diarrhea (children of 7, 13 and 24 months), in which half teaspoonful doses of pepto-mangan, following rhubarb and soda, effected prompt improvement.

Reports of similar kind are numerous, and indicate that this is an efficient, assimilable and desirable iron preparation.

TREATMENT OF PRURITUS VULVE.—Ruge, (*Berlin. Klin. W'chensch.*, quoted in *Montreal Medical Journal*), says, in an address to the Obstetrical Society of Berlin, that the essential part of the local treatment is thorough disinfection of both vulva and

vagina. It should be done as carefully as if a vaginal operation were to be performed. Ruge washes, soaps and then disinfects with sublimate solution, the vulva, vagina and cervix till all pathogenic micro-organisms have been removed; he then applies to the vulva an ointment of carbolated vaseline (3 to 4 per cent). The obstetrician should carry out this local treatment himself, using his fingers, but not brushes or instruments which might cause fresh lesions. Ruge says that the positive and immediate results are in most cases surprising. In severe as well as mild cases, even when complicated with deep and extensive ulceration, cure is rapid. For some years he has treated systematically in this manner all cases of pruritus, whether leucorrhœa or not, with surprising results.

QUICK CURE OF VULVO-VAGINITIS.—A case of vulvo-vaginitis in a young girl is reported by Dr. F. M. Clark from the clinic of Dr. Baldy (Philadelphia *Polyclinic*). Nancy W, aged 11 years, three months advanced in puberty, was referred to the clinic on account of a leucorrheal discharge of two or three weeks' duration. The mucous surfaces of the labia were red and injected, as was also the interior face of the hymen. The mucous membrane was bathed with a white mucus secretion. The perforation in the hymen was small and centrally located. There was no evidence of the extension of the inflammatory process to the vagina.

The treatment consisted in frequent washing of the parts with a solution of sodium borate and essential oils (thyme, eucalyptus, etc.), and dusting with boric acid; subsequently the application to the entire vulvar mucous surface of 2 per cent. solution of silver nitrate on every third day. Thirty days after the adoption of this treatment the patient was discharged well. In regard to the etiology of the case, it may be stated that the child occupied a separate bed, and that the mother had no leucorrheal discharge.

There was no history of ascarides. The condition was evidently due to the congestive disturbances incident to puberty, exaggerated in this case by its early onset, in a child already enfeebled by a rheumatic endocarditis following an attack of typhoid fever one year ago. This case is interesting, on account of the quickness with which the cure was effected through complete control of the patient. The reason, perhaps, why vulvo-vaginitis in children is, as a rule, so obstinate to treatment is from lack of intelligent co-operation in carrying out the frequent ablution and medication.

TREATMENT OF DYSMENORRHEA.—The best treatment in dysmenorrhea preceding the flow and associated with a movable uterus is, according to J. E. Langstaff, in *Brooklyn Medical Journal*, May, 1897 (*Universal Med. Journal*), the injection of 10 minims of a 3 per cent. mixture of Churchill's tincture of iodine and water into the uterine cavity every four or five days during the intermenstrual period. The injection is effected by means of a fine glass tube, curved an inch from one end and expanded into a funnel-shape at the other; a piece of sheet rubber covers this end, and by the pressure of the finger the contents are passed into the uterine cavity. In the majority of the cases treated the patient was unmarried, and had previously required opiates for the excessive menstrual suffering. The treatment has no effect when there is pelvic inflammation or disease of the ovaries and tubes; yet in suitable cases it may prevent the development of a neurotic temperament,

TREATMENT OF CYSTITIS IN THE FEMALE.—Dr. H. C. Bloom, in the *Philadelphia Polyclinic*, May 23, 1897, says:

In the treatment of cystitis, if acute, put the patient to bed at once. This is the first essential in the management of such a condition. The diet should be light, unstimulating—fluid, milk, broths and eggs. Avoid all stimulants; keep the

bowels freely open with salines; keep the patient warmly clad. If the urine is acid, it should be rendered neutral by alkaline drinks such as Vichy water with plenty of soda in it, as well as by any of the prescriptions mentioned in my former article.

In nearly all these cases the water is alkaline, though not as frequently in acute as in chronic cystitis. The best agent for neutralizing an alkaline urine is benzoic acid either in solution well diluted with water, or in 5 grain capsules, which are preferable, every three hours until the desired effect is obtained. Use large drafts of water after each capsule. Salol in 5 grain capsules every two hours, until the water is acid, is most valuable where there is much ammoniacal decomposition.

Boric acid 10 to 20 grains in cinnamon water every three hours soon corrects offensive urine. For pain which is often a prominent symptom there seems to be nothing better than 5 grain doses of acetanilid, repeated as indicated.

Irrigation of the bladder becomes a most important adjunct in the successful management of these cases. Of course, if it is acute cystitis, not until after the acute symptoms have subsided. One of the best irrigations for this purpose is potassium permanganate in one-twelfth to one-fourth per cent. solution. Another very good one is one-half per cent. solution of acetanilid. In chronic cystitis this is one of the most valuable solutions that can be used. It can be increased in strength if found necessary.

The technic of vesical irrigation is most important. The apparatus is most simple, consisting of a soft rubber catheter joined to a piece of rubber tubing by a short piece of glass tube. A small glass funnel is connected with the other end of the rubber tube. The whole apparatus can be from 4 to 5 feet long.

Sterilization is most important before using it and immediately afterwards. Upon thorough cleanliness depends largely the successful issue of the case. *Asepsis* and *antisepsis* are as important in this opera-

tion as it would be were one about to open the abdomen. After carefully cleansing the meatus urinarius as well as its immediate surroundings, the catheter, well lubricated with sterilized vaseline, is introduced, the urine drawn off, while the instrument is still in place, and the tubing filled with the column of urine, thus preventing the entrance of air; the funnel is filled with the irrigating solution and gradually raised, distending the bladder slowly. The quantity used will depend upon the vesical irritability. Some bladders will not tolerate over an ounce. The maximum quantity should not exceed five ounces. The funnel is then lowered and the bladder evacuated in the same careful manner.

This procedure is repeated till the washings come away perfectly clear and clean. The temperature of the solution should be about 100° or 105° F.

We use this once a day at first, or at most twice a day, and after a few days lessen the frequency. Even this may fail in certain bladders to cure the trouble; then one will have recourse to drainage, keeping the bladder empty by a self retaining catheter. This is proceeded to by first dilating the urethra to the point of paralyzing the vesical sphincter.

If this fail's, Emmet's operation becomes necessary for draining the bladder through the formation of a vesico-vaginal fistula.

If the vesical irritability is due to carcinoma, the only permanent relief is total extirpation under careful antiseptic precautions. If due to fissure, or ulcer, dilations of urethra, curretage and the application of carbolic acid or silver nitrate, always being careful to draw the water through a sterilized catheter for several days, will meet with success.

In the treatment of gonorrheal vesical irritability nothing seems to do more good than the application of pure ichthyol to the urethra after carefully cleansing it with a solution of mercury bichlorid, and giving internally a capsule of two grains of ichthyol and five minims of oil of san-

dal wood every three hours, and one or the other of the prescriptions mentioned.

In chronic cystitis, it is important to look after the general health, as well as the local treatment, and if it is, as is often found, associated with a retroversion, the success will be very much greater if the uterus is restored to its normal position.

ACTION OF ERGOT.—The following is the summary of the action of ergot, furnished by Dr. L. Atthill, in the *Amer. Journal Surg. and Gynec. (Medical Review)*:

1.—When administered previous to the termination of pregnancy in the case of women in whom a tendency to postpartum hemorrhage is known to exist, it tends in a marked manner to prevent the occurrence of hemorrhage.

2.—When so administered in ordinary doses, it does not produce any injurious effect on either mother or child, and it seems to delay the beginning of labor in such cases.

3.—It tends to make the involution of the uterus more perfect, and lessens the chance of the occurrence of subsequent uterine troubles, many of which depend for their cause on imperfect involution of that organ.

4.—It will not bring on premature labor or induce abortion unless uterine action has previously been set going.

5.—In cases of threatened abortion its administration frequently seems to act as a uterine tonic, and in some cases tends to avert the danger of a miscarriage, provided the ovum is not blighted.

6.—If the ovum is blighted, and especially if it is detached, ergot usually hastens its expulsion.

HYOSCYAMINE FOR PARALYSIS AGITANS.—Dr. Chalmere, of Chicago, it seems recently made some favorable reports in the *New York Medical Journal* regarding the use of hyoscyamine in this heretofore *bête noir* of our profession. Since then, hyoscyamine has been coming to the front with promise of relief for this most

troublesome and intractable disease. Even a temporary relief, as the *Medical Times*, July, 1897, well says, for this distressing condition, obtained without injury to the system, will be hailed with gratitude. The accumulating experience of the profession makes every case of well-marked paralysis agitans a sufficient warrant for a test of hyoscyamine. The case of a clergyman is cited whose shaking of the head and right upper and lower extremities had been on the increase for years. A drop of a solution of hydrobromide of hyoscyamine—two grains to the ounce—was dropped into the eye. In twenty minutes, the shaking had entirely ceased, at the end of three-quarters of an hour speech was difficult and the patient was unable to rise from his chair. This partial paralysis gradually disappeared—there being no return of the shaking for several hours. In this case as in another, the use of one drop of a solution of one grain to the ounce was sufficient, applied at stated times, to keep the patient entirely comfortable.—*Virginia Med. Semi-Monthly*.

THE SPECIFIC ACTION OF QUININE IN MALARIAL DISEASE.—Dr. E. C. Register, recently read a paper with this title before the North Carolina Medical Society (*St. Louis Medical Era—N. Y. Medical Journal*.) After many years of study, both clinical and microscopical, he has arrived at the following conclusions in reference to the specific action of quinine in the continued forms of malarial fever: A malarial fever without complications will subside after the plasmodia disappear from the blood; we have in quinine the means of completely eradicating malarial poison from the body; malarial fever occurring in a previously healthy subject, and in the central United States, if at once recognized and properly treated, never ends in death; it is speedily curable and never continues, provided the nature of the disease is recognized and appropriate treatment employed.

Dr. Register has made microscopical

examinations of the blood of several hundred patients suffering with remittent malarial fever, and has studied closely and thoroughly the crescentic and ring-shaped bodies which he says are the forms of the parasite which are responsible for the continued types of this fever, and he finds that the reason quinine does not always affect these irregular forms of the poison lies in defects in its administration. He contends that the drug is very imperfectly absorbed when given by the stomach and when the patient has a temperature of over 102 degrees F. He says that in cases of continued malarial fever, if distinct and well-marked intermissions of the fever are produced artificially by the use of anti-pyrine, acetanilide, and phenacetine, the crescentic and ring-shaped bodies will disappear after the administration of quinine as quickly as the spherical bodies that are found in ordinary intermittent fever. In reference to the belief that the forms of the parasite that inhabit the blood cells are not acted on by quinine, he has no doubt that this belief is erroneous. Besides his own observations, he has been able to collect the opinions of thirty-two authors touching upon this point, and twenty-eight out of the thirty-two believe that the intracorpuseular forms are not, on this account, the cause of an uncontrollable fever, and that proximity of the parasite to the blood cell does not in any way protect it from the action of quinine.

THE DISINFECTION OF THE HANDS.—After a critical study of the literature on this subject and an exhaustive series of carefully conducted experiments, Fürbinger and Freyhan (*Deutsche med. Woch.*, Feb. 4, 1897—*Amer. Jour. Med. Sci.*) conclude that the consensus of opinion and evidence shows that it is practically impossible to sterilize absolutely the hand with soap and water even in conjunction with ordinary antiseptics, but that sterilization is more nearly approached, *caeteris paribus*, the more alcohol is employed in the process.

The procedure advocated is the washing with warm water, soap and brush for five minutes, rinsing in sterilized water, washing in alcohol for five minutes, washing in sterilized water, with or without a further washing in an ordinary antiseptic solution.

The action of the alcohol their experiments show to be threefold: 1. Its bactericidal action. 2. Through its properties of dissolving fats and mixing with water it prepares a way, not only for its own germicidal action, but also for that of any subsequent antiseptic. 3. It loosens the epidermis and with it the dirt and contained bacteria, washing them away.

A CASE OF CREOLIN-POISONING IN A CHILD.—Anthony (*Medical Record*, March 27, 1897.—*Amer. Jour. Med. Sciences*, relates a case of acute poisoning with this drug occurring in his own child, aged five years. The boy was suffering from whooping-cough, for which inhalations of creolin were being used. By mistake the nurse gave him a teaspoonful of creolin, thinking it was a cough-mixture. The mistake was immediately recognized, and the child suffered great agony, the lips and chin becoming white. The father reached him about ten minutes after the ingestion of the drug, to find him comatose, with greatly contracted pupils, cold skin, and complete muscular relaxation. Respiration was superficial, jerky, and irregular; the pulse rapid, faint, irregular, and at times very indistinct. The general condition suggested the use of atropine, and $\frac{1}{100}$ grain was given hypodermatically, followed in thirty minutes by a second dose of $\frac{1}{50}$ grain, artificial respiration being kept up in the meantime. Shortly after the second dose of atropine the pupils began to dilate and the heart's action improved. In two hours consciousness was sufficiently restored to permit liquids to be swallowed, and then sulphate of magnesium in saturated solution was given until four drachms of the salt had been taken. Six hours after ingestion of the creolin one

ounce of black urine was passed. This, on standing, deposited a black granular sediment resembling charcoal. Recovery was rapid, and no unpleasant sequelæ remained except from temporary constitutional disturbance due to the atropine, and the local corrosive effects of the poison upon the lips, mouth, and throat. The value of atropine and the sulphates thus seems clearly indicated in the treatment of cases of poisoning by creolin.

TRAUMATOL (IODOKRESIN).—Dr. W. Schattemann describes this as a violet-red, amorphous, remarkably fine, bulky, odorless powder, which results from a chemical combination of cresylic acid ($C_6H_4CH_3O$ H), from coal-tar cresol, and iodine, containing about 54 per cent. of the latter. It is insoluble in water, acids, and alcohol, slightly in ether, but readily soluble in chloroform and strong alkalies. Laboratory-experiments demonstrated that it is not poisonous and that it possesses antiseptic properties. It is employed as a powder, gauze, vaseline, glycerin, crayon, plaster, and collodion. It may be prepared as a 5 to 10 per cent. traumatol-zinc-paste, 10 per cent. traumatol-lanoline-vaseline, or 10 to 50 per cent. traumatol-chloroform. For venereal ulcers, after preliminary cleansing, it brings about a speedy cure. The crayons are useful for the healing of fistulous tracts, dissolving more slowly than those made of iodoform. For genital erosions the collodion is preferred. As a powder, or with chloroform, excellent results have been obtained in syphilitic affections of the mucous membranes. For various operations performed in genito-urinary work—phimosis, buboes, gland-extirpations, papillomas, warts—the application of the powder, which is covered over with the collodion, is recommended. In addition to its antiseptic properties, its drying and unirritating effects are so marked that its field of usefulness embraces a considerable number of skin-diseases. The results obtained upon seventy-five patients who were treated by this remedy,

used alone, show conclusively that in it we have a valuable addition to our therapeutic resources.—*Therapeutische Monatshefte*, 1897, Heft 2, S. 89.—*Amer. Jour. Med. Sciences*.

FACIAL ECZEMA.—Dr. JOHN E. HAYS, Professor of Dermatology at the Louisville Hospital College of Medicine, in a clinical lecture (*Pediatrics*, June 15, 1897) says of a 2 year old patient, exhibited to the class, having an eruption on the face, which he designates as squamous eczema:

The mother tells us that the disease seems to be very much aggravated when she washes the child's face. Often in cases of eczema quite as much depends upon what we proscribe as what we prescribe in the way of treatment, and it is my custom to tell the mother not to wash the face of the child until the disease has been thoroughly cured. If it becomes necessary at any time to use some cleansing agent, I advise the application of some pure sweet oil. Saturate a piece of soft cloth or absorbent cotton with sweet oil, and pass it over the patch several times, and in this way you can cleanse it as perfectly as could be done with water, and cleansing in this way does not interfere with the process of healing. You will find it almost impossible to cure a patch of eczema of the face if the mother or nurse is allowed to wash it, particularly if some form of cheap, irritating soap is used.

The proper treatment in this case is to employ some mild protective salve, which contains also a remedy capable of destroying the parasite which is probably the cause of the trouble. We will prescribe the ammoniate of mercury, oxide of zinc, powdered starch, and vaselin, as follows:

R Ammoniate of mercury..	15 grains,
Oxide of zinc.....	1 dram,
Powdered starch.....	1 dram,
Vaselin.....	6 drams.

Mix and instruct the mother to keep the patches constantly covered with this salve, using a small amount several times.

during the day. The child's face should not be washed with water until the disease is cured, but if cleansing becomes necessary, it should be done with sweet oil, as we have described.

PRACTICAL NOTES ON THIOL.—Wirz, of Kaisersesch (*Deutsche medicinische Wochenschrift*, July 1, 1897,—*N. Y. Medical Journal*), says that for a year past he has employed thiol in place of ichthyol in many cases, and has had ample opportunity to convince himself of its excellent qualities. As a substitute for ichthyol it seems especially welcome when used on the face, as it is odorless. Patients who could not bear the smell of ichthyol improved under the use of thiol. In inflamed conditions the analgetic properties of thiol surprised him. It can be used, he says, in inflammations of every description. Infiltrations are resorbed without the formation of pus, making incision unnecessary. In severe carbuncles, after removal of the pus, thiol allayed inflammation when applied around the wound on the infiltrated parts and pain ceased entirely. This was observed in all inflammatory processes where thiol was used after the removal of the pus. Lymphangitis, even phlegmons caused by panaritium, insect bite, and other causes, quickly disappeared under thiol treatment. Inflammation of the face caused by decayed teeth, erysipelatous infiltration of the scalp and face, and severe infiltration of the neck which took on a serious aspect owing to œdema of the glottis gradually disappeared under constant application of thiol. In a case of general furunculosis in a child, he directed painting thiol over every furuncle and soon a complete cure resulted. The best results, he says, are obtained with liquid thiol as supplied by the manufacturers, not by that prepared from powdered thiol with the addition of water. In five cases of parametritis he has had good results with plugs soaked in thiol and distilled water, equal parts. He also

ordered applications of thiol on the abdomen during the night. During the day hot linseed poultices were used. In a severe case of parametritis and perimetritis accompanied by great abdominal pain, high temperature, and rapid pulse (130) he had better results with ichthyol, as applications of thiol did not completely allay the pain, while ichthyol induced complete recovery. Cases of otitis externa he has treated with thiol plugs with complete success. No other remedy has rendered him such good service against severe pains in the back after influenza. Patients experienced lasting relief by rubbing thiol over the whole vertebral column. Patients with emphysema accompanied by marked dyspnœa were relieved as soon as thiol was rubbed on the chest. Pains in the muscles of the thorax ceased, expectoration became easy, and dyspnœa and catarrh improved. In pleuritis exsuditiva as well as pneumonia crouposa thiol was of great service, either alone or together with veratrine and potassium-iodide ointment, against pain in the chest. Several patients said that this ointment benefitted their condition more than caffeine, camphor, hæmatogen, etc. Wirz has come to the conclusion, therefore, that we possess in thiol an agreeable substitute for ichthyol, odorless, cheap, and efficient.

GUAIAC IN PYELITIS.—In the *Medical Register*, 1897, Vol. i, No. 3, Dr. H. H. Levy records several cases in which the administration of tincture of guaiacum seemed to bring about recovery from pyelitis, which in one case was associated with hydronephrosis. The origin of the cases does not appear from the report. Dr. Levy fails to find in the text-books anything to throw light on the power of guaiac to affect the kidneys. He believes that it acts in the course of its elimination, and has instituted chemical studies of the urine of patients taking the drug with a hope of arriving at some explanation of the power it has clinically demonstrated.

The dose was one fluidram of the official tincture, stirred in four ounces of fresh milk, and usually given every fourth hour. When purging or diaphoresis were too great the dose was reduced. Sometimes paregoric was given intercurrently to control diarrhea. Instead of milk, mucilage of flax seed or gum arabic may be used to suspend the guaiac.—*Phila. Polyclinic.*

LACTOPHENIN PERFECTLY SAFE.—In his exhaustive chapter on Tuberculosis, in Wilson's American Text-book of Applied Therapeutics, Professor James T. Whitaker, of Cincinnati, compares the antipyretics at various stages of treatment, and always speaks most favorably of lactophenin. Thus, in mentioning methods for lowering the temperature (p. 376), he says that salol is safer than acetanilid, antipyrin or phenacetin, "but as it liberates carbonic acid in the intestine it should not be given in any case of stasis of the kidney;" and then he adds: "Lactophenin, in the same dosage (5 to 7 grains), is efficacious and free from danger." To quiet pain (p. 384), "sometimes due to a toxic neuralgia," salol is safer than either phenacetin or antipyrin (the latter, in large doses, depressing the heart), while "lactophenin is a perfectly safe drug in the same dose (5 grains every two hours)." This view is in accord with the judgment of the many reporters, that lactophenin is the safest of all the newer antipyretics.

Book Notices.

ANOMALIES AND CURIOSITIES OF MEDICINE.

Edited by GEORGE M. GOULD, A.M., M.D., and WALTER PYLE, A.M., M.D., with 295 Illustrations in the Text, and 12 half-tones and colored plates. Published by W. B. Saunders, 925 Walnut St., Philadelphia. (Price: Cloth, \$6.00 net; half Morocco, \$7.00 net.)

This book is another testimonial of the versatility and indefatigable literary labor of Dr. George M. Gould. A collection of the abnormal in human life, covering records of ancient to most modern times,

the evidence sifted down to facts and credibility, classified, presented in entertaining style, instructive and profusely illustrated. A notable characteristic of the book is the reader's hazy familiarity with text and illustrations, and the consequent pleasure in recognition of marvellous monstrosities and seemingly impossible abnormalities, all described exactly, with specific references and careful efforts at substantiation, and available for ready reference in future.

The value of the book is chiefly in the aid which it may afford in medico-legal cases. "Expert medical testimony has its chief value in showing the possibilities of the occurrence of alleged extreme cases, and extraordinary deviations from the natural." We may safely say that in this book will be found parallels of almost anything that may occur in accidental and natural variations of the normal conditions of human life and anatomy.

"A widow with a child of ten months' gestation may be saved the loss of reputation by mention of the authentic cases in which pregnancy has exceeded nine months' duration; the proof of the viability of a seven months' child may alter the disposition of an estate," etc. Of these possibilities the medical man is cognizant, but he is not always able to prove them by precedents; this work quotes many cases of these and similar variations, and furnishes references to sources, dates, places, facts.

The book is the result of the joint labors of Drs. Gould and Walter L. Pyle, and as no division is indicated in the text the credit is to be applied mutually. The authors state that they "contemplate constantly increasing their data, and shall be glad to receive information of any unpublished anomalous or curious cases, either of the past or in the future." We trust our readers will bear this invitation in mind, and lend a helping hand if they find available material.

This volume is unique; a perusal will broaden the reader's mind; it will prove

interesting for study and valuable for occasional reference. It contains nearly 1000 pages, including a comprehensive index; and it is substantially bound in its publisher's well-known standard of mechanical perfection.

REFERENCE-BOOK OF PRACTICAL THERAPEUTICS. By various authors. Edited by FRANK P. FOSTER, M.D., editor of the *New York Medical Journal*. (In two volumes). Vol. I., A—Myrtol. Publishers: D. Appleton & Co., 72 Fifth Av., New York. (By subscription only).

Dr. Foster, with the assistance of many distinguished collaborators (including, for instance, Drs. Corning, Crandall, Gerster, Jewett, Potter, Rice, Rohé, Whittaker, Wyeth, etc.) has compiled a highly practical and serviceable encyclopedia, which is sure to be appreciated and adopted for general use by students, practitioners and authors. The arrangement is alphabetical, without classification—which is of distinct advantage in a book for ready reference; the descriptions are usually very terse, but amply definite. Many articles are signed, indicating the care bestowed on, and the reliability, of the definitions.

The newer remedies are included in noteworthy complete number, and the comprehensive information thus made readily available materially enhances the value of this volume. (We regret to note, by the way, that the credit for much of this information is not granted to H. Helbing, who was the originator of new remedy reference books. See Helbing's *Modern Materia Medica*).

We expect to present the merits of Dr. Foster's work at greater and merited length later when we have had an opportunity to examine the second volume, which is now also ready. Meanwhile, we advise the reader to procure sample sheets and prospectus from the publishers, and to put this book at the head of the list of most necessary contemplated additions to his library.

A TEXT-BOOK OF THE DISEASES OF WOMEN. By CHARLES B. PENROSE, M.D., Professor of Gynecology, University of Pennsylvania; Surgeon to the Gynecian Hospital, Philadelphia. Published by W. B. Saunders, 925 Walnut St., Philadelphia. (Price, \$3.50 net.)

There are text-books of gynecology in sufficient number to satisfy the need for standards, but there is always room for another authority—in this as in all branches of study. The world progresses, and with increasing rapidity—just as time seems to pass more quickly for the individual as he grows older; and day by day the knowledge of sciences grows more perfect—just as the individual grows wiser. The latest text-book has always the best title to perfection.

The author of the book before us has earned prominence in his specialty, as a teacher and as a writer. He has made this book for students, presenting "the best teaching of modern gynecology," and embodying his methods in didactic lectures as proved most effective by experience. Dr. Penrose is a distinguished and esteemed teacher; his text-book for the use of others will share the distinction of his reputation.

The book is divided into 43 chapters, arranged for progressive study; the text is terse and lucid, and is profusely and advantageously illustrated. We believe it will meet with a generous reception and find approval and preference. An examination, by use of the index and random references, shows that it will prove valuable to the general practitioner also.

PAMPHLETS RECEIVED.

Personal Experiences with Vaginal Section; by A. BROTHERS, M.D., of New York. 1897.

The Hemiplegic State and its Treatment; by ARCHIBALD CHURCH, M.D., of Chicago. 1897.

The Civic Duties and Responsibilities of the Physician to his Community, State and Nation; by JOHN PUNTON, M.D., of Kansas City. 1897.

Is there ever a Serous Iritis without an Involvement of the Ciliary Body, or Choroid, or Both? By WILLIAM CHEATHAM, M.D., of Louisville. 1897.

The American Therapist.

A MONTHLY RECORD OF MODERN THERAPEUTICS,

WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

VOL. VI.

NEW YORK, OCTOBER 15th, 1897.

No. 4.

Original Articles.

DERMAL THERAPY; BEING THE ACTION OF CERTAIN DRUGS WHEN APPLIED TO THE SKIN IN DISEASES.

By J. ABBOTT CANTRELL, M.D.,

Professor of Diseases of the Skin in the Philadelphia
Polyclinic and College for Graduates in Medicine;
Dermatologist to the Philadelphia Hospital
and to the Frederick Douglass Memorial
Hospital.

In applying remedies to the skin when diseased we expect to achieve certain results, and as these effects will be in equal ratio to the proper selection of the medicament it is truly wise that we have a distinct understanding what our chosen drug will do, or otherwise grave errors may occur.

All drugs have a selective action when placed in contact with an undiseased or affected skin, but as our province directs a choice for the diseased condition we must study the characters produced by these remedies. We are well aware that some diseases of this membrane demand soothing applications, while others assert the reduction of an inflammation, and still others command the choice of more active stimulating qualities or positive destroying agents; thus after long experience it has been determined that drugs, when applied to diseased conditions of the skin, produce either one of the following results: Astringent effects; stimulating qualities; sedative results; antipruritic properties, and destruction of tissue (caustics), or of life (parasitocides).

Astringent drugs are those which, when

applied to the diseased skin, exert a constringing effect upon the inflammation, or act as drying agents to a discharging area. They may be used either in the form of powders, lotions or even ointments, although this latter effect does not agree with some experiences.

Stimulating remedies are such as increase or assist in reproducing the normal action of the skin or its constituents, as, for instance, the glandular elements or the layers that make the cuticle or derma itself. They may be applied as lotions, powders or ointments.

Sedatives act by giving relief from pain or neuralgic sensations.

Antipruritics are those which relieve or prevent itching conditions, and may be advised either in powder, lotion or ointment form.

Caustic drugs present a power for removal of tissue, and act either slowly or quickly, as may be desired, in stick form, lotion or ointment.

Parasitocides are remedies which destroy the animal or vegetable life which often infests the skin.

ASTRINGENTS.

Fully understanding that astringents are remedies which act by constringing or by reducing an inflammation, as well as exerting a drying effect upon areas which are discharging matter, whether this be simply serum or pus, we may look at the several remedies which possess this quality; and as we may digest this property we may study somewhat the manner of disease in which the drug may produce its characteristic effect with advantage.

Firstly, allow me to refer to certain acids which act in this manner: *Acetic*

acid, which is undoubtedly of little value in dermatologic therapy, has an astringent or curative effect upon certain forms of dermatitis, and particularly inflammations due to sun-burn; but as we have more promising drugs it may be wise to first give them a trial, and then, if failure results, we may remember the effect of this acid. It is preferably used in the form of a lotion. *Boric acid* certainly has a great field of usefulness on account of its astringent properties, and consequently is advisable in affections presenting acute inflammation. Acute eczemas, whether of one form or another, may be classed as one of the diseases claiming the action of such a drug, while all forms of inflammation demand a similar remedy. It often reduces inflammation to such an extent that other remedies may be assisted in or given a greater chance to effect a cure. *Carbolic acid* possesses this quality when applied in full strength to the floor of either furuncles or carbuncles, but otherwise not to any great extent. *Picric acid* has of late been recommended strongly as an agent in the treatment of scalds and burns, but must be used sparingly.

As an astringent it is certain that *acetanilid* has proven its worth, and in such affections as dermatitis, whether of less or marked degree, the drug can be thoroughly relied upon. If moisture be present, or if the character of inflammation be a dry one, the drug fulfills its part. *Alum* contains a similar property and is curative in some forms of skin inflammations; while *alumnol* can be relied on in similar conditions, and both act judiciously in ulcerative changes as well as contributing to the cure of all acutely inflamed areas. *Bromine* and *chlorine* possess the same action and may be justly advised in like affections, being especially adapted to the relief of ivy poisoning and like conditions. *Benzoin*, as well as *benzoic acid*, advances the cure of all cutaneous irritations; and *camphor*, *tannic acid*, *starch*, *antipyrine*, *acetanilid* and *opium* contribute similar effects. *Sulphur*, *ichthyol*, and its counter-

part—*thiol*—can be relied upon when occasion demands such action of drugs, and are judiciously chosen as agents for the cure of all forms of dermal outbreaks wherein irritation and inflammation, whether of a moist or dry aspect, have supervened; thus they may be advised in the treatment of eczema, all form of dermatitis, intertrigo, and like attacks. Of the *mercurial* preparations there is no doubt but that *calomel* contains this quality to a greater extent, and probably is really the better remedy, in most of the vesicular and pustular inflammatory affections of the skin. I myself have received more than good results following its use, and feel well disposed to it as an agent in cutaneous therapeutics. *Creosote*, which probably does not entirely fill the place of carbolic acid, is often used with advantage; while *tumenol*, *eucalyptus*, *salicylate of sodium* and *bismuth*, either subnitrate or subcarbonate, may often be demanded for the same effect. *Resorcin* and *iodol* act well in the treatment of ulcerations, but do not contain astringent properties as great as some of the others mentioned. *Europhen*, another iodine derivative, contains these qualities to a slight extent, but it should be given in the smallest quantities, or else stimulating effects will be produced. A drug which can often be given with advantage in cases of inflammatory outbreaks, and one which is often used wisely in the treatment of ivy poisoning, eczema, and other forms of irritative conditions, is the fluid extract of *grindelia robusta*. The *lead* and *zinc* preparations, especially the acetate of the former and the sulphate of the latter, produce cures where many other remedies fail to make an impress, and consequently have great fields of usefulness in this connection. There are many other, new and old, drugs which may contain these qualities, but I feel that the list here given will be a well equipped formulary for the treatment of those conditions of the skin which are commonly met with in our daily practice.

STIMULANTS.

Agreeing that stimulants have the property of increasing or assisting in reproducing the normal action of the skin or its constituents, we may digest the action of certain drugs which have proved themselves as containing this attribute, and of these we have some which present mild results while others show much greater activity when placed in contact with the diseased surface.

Of the stimulant drugs mention may be made of *aristol*, one of the later iodine derivatives, and a drug which contains this quality to an exceedingly great extent, being therefore applicable only in those affections which demand the greatest amount of stimulation, such as psoriasis, eczema in its infiltrated and hypertrophic stages, ulcers of much induration, and similar conditions of the integument, or affections of a tuberculous or degenerative tendency, such as tuberculosis cutis, epitheliomatous changes or even lupus. The dried and powdered extract as well as the tincture of *belladonna* have rather a small position in the treatment of cutaneous maladies, but what action the drug has is rather a stimulating one, and is found useful in the treatment of local hyperidrosis and pruritic sensations, with some slight use in loss of hair and in eczematous outbreaks. *Capsicum* and *cantharides* in the form of tinctures have proven of some use in alopecia areata, while *carbolic acid* and *chloral* often produce stimulation where hair is lost, or where dandruff is present. Carbolic acid also has proved itself useful in ulcerations of the skin, or where decided stimulation is called for in hypertrophic manifestations. For the treatment of hyperidrosis or other forms of excessive sweating *chromic acid* often plays a judicious part, and may be given with advantage for the removal of warty excrescences. *Croton oil* proves advantageous often where counter-irritation is called for, and may be used for the artificial production of irritation, as when called for in the treatment of ringworm of

the scalp; but otherwise it has little place in cutaneous therapy. As a stimulant *peroxide of hydrogen* plays only a small part, but is often found serviceable in the early treatment of ulcerations. Another of the iodine derivatives, *europhen*, possesses this action, and may be advised in the treatment of the more chronic forms of disease, such as eczema, psoriasis, indolent ulcers and epitheliomatous growths. *Iodine* itself, in solutions with water or in the commercial tincture, and *iodoform* have uses that may often be called for in treating excessively chronic inflammations, or where thickening has occurred. *Loretin* has strong stimulating qualities, while *naphthol* and *naphthalene* possess this quality to a pleasant degree, thus making them useful remedies in cases demanding such actions as indicated by acne, acne rosacea, seborrhea and eczema, where infiltration and thickening have taken place. The oils of *turpentine* and *copaiba*, while possessing similar attributes, have found little place in dermatological practice; but greater results may be expected from the administration of *pyrogallie acid*, *resorcin*, *salicylate of sodium* and *salol*, which may be used with advantage in some of the more chronic affections of the skin. I have found that *salicylic acid* has great uses as a stimulant, and consequently is advisable in a great many affections where such an action is required, and even, I may say further, that this acid has proved itself of more worth than most of the so-called stimulants that may be in use at the present day. The preparations of *tar* or any of its derivatives may often be advantageously advised, and the mixtures in most common use are *picea liquida*, oil of cade, oil of birch, burgundy pitch and the "liquor carbonis detergens." All of these last named remedies play a decided part in the treatment of such affections as eczema, where we likely are often presented with much thickening. Many other drugs may possess such qualities, but because of one thing or another they have

proved of little service in the treatment of cutaneous maladies, and therefore they have not received space in this review.

SEDATIVES.

As we understand the word, sedative means anything that may give relief, be it from pain or neuralgic sensations, and of this class of remedies we have certain ones that may be judiciously advised, while others prove of very little service and therefore will receive no mention. *Opium* and *morphia* perhaps play as important a part in this connection as any of those contributing such powers; and no less may be said of *cocaine*, as well as of its counterpart, *eucaïne*, both of which have proved of decided value in the treatment of painful or neuralgic sensations of the skin, such as observed in herpetic affections, or where this condition is induced during the attack of other diseases. *Bismuth*, subnitrate or subcarbonate, acts in the similar capacity, while *chloral* needs only mention to say that similar results follow its use; and yet another drug is not to be overlooked, because it is certain that *belladonna* affords just as efficient service, and *grindelia robusta*, in the form of the fluid extract, and the ammonio-ichthylol produce many good results. *Olive oil* often gives needed relief when used during irritating discharges, or where fissuring is consequent upon movements of the joints. *Lead* must not be overlooked in this connection, because it has given good service in many conditions of the skin, and has been known from time immemorial and can yet be relied upon for much good work.

ANTIPRURITICS.

Drugs which relieve or prevent itching conditions receive the name antipruritics, and occupy a great field in the dermatologist's work, for the very reason that they may often be called for in the treatment of the most trivial affection, or where this sensation is consequent upon the existence of some other form of dermatosis. Of those having the most power and therefore the greatest use, attention may be directed to *alum*, which often gives quick

relief in pruritic conditions of the anus, but should it not have the power to give entire relief its addition to the mixture enhances the value of the preparation. *Benzoin* and *benzoic acid* are well known for their good qualities in this condition, while *boric acid*, although possibly not as good as *carbolic acid*, acts very judiciously in many affections of this nature. In affections like urticaria and pruritus, where in the itching is the most prominent external symptom, the four last named drugs fill an important field. *Camphor* can often be relied upon in one of its combinations; *chloral*, *chloroform* and *creosote*, while not taking the place of carbolic acid, often give much wanted effects in a similar direction. *Collodion* alone painted upon a patch of anus affected with itching sensations proves effectual in many instances, while, if failure results, its action may be greatly enhanced by the addition of either *resorcin*, or *salicylic acid*, although neither of these possess marked antipruritic properties. *Cyanide of potassium* and *hydrocyanic acid*, *iodine* and *iodoform*, and *permanganate of potassium* often give the proper result in cases of similar attack, while *menthol*, *thymol*, *beta-naphthol*, and others of the tar group, such as picis liquida and oil of cade, contribute their share to the cure of many of these conditions. Other remedies might be mentioned in this list but would unnecessarily lengthen the scope of this paper.

CAUSTICS.

Caustic drugs receive the name because of having the power of removing or killing tissue which is, or is not, diseased, thus assisting in the restorative process. *Arsenic* has for a long time enjoyed the reputation of being useful in the treatment of epitheliomata, and this knowledge is used to advantage by the so-called "cancer doctors," who employ it usually in ointment form, either using pure arsenic or the arsenious acid, the latter of which is the more preferable. *Glacial acetic acid*, *chloroacetic acid*, *trichloroacetic acid*, *nitric acid*, *pyrogallic*

acid and *silver nitrate* in stick have often been used with advantage, while *silver chloride*, *ethylate of sodium* and *salicylic acid* have had their followers. The drugs used mostly by me consist of *caustic potassium* and *lactic acid*, and from the results gained in their use, I have almost cast the others aside, although I sometimes resort to them in cases of necessity; knowledge from experience is what we all require.

PARASITICIDES.

Parasiticides have gained their name through the power which they have of destroying animal or vegetable life which often infests the skin, and while the number is rather large I have somewhat pruned it down to a proper list. *Aristol* has proved curative in superficial ringworm, while *acetic acid* in addition has cured *tinea versicolor*, and *bichloride of mercury* has further added *tinea tonsurans* to its list. *Anthrabin*, *chrysarobin* and *pyrogallie acid* have all proven of excellent service in the treatment of all forms of vegetable life, with *copper* (sulphate or oleate), *naphthalene*, *beta-naphthol*, *sulphur*, *sulphurous acid*, *sulphite* and *hyposulphite of sodium*, *sapo viridis*, *iodine* and *iodoform* often proving necessary and efficient seconds. *Resorcin* and *salicylic acid* and *salol* have proved of very excellent efficiency in my work. *Kerosene*, *coal oil*, *ether* and *chloroform* have often proved of good service in the treatment of *pediculosis*, but I myself have received better results from the use of the fluid extract of *staphisagria*, either in ointment form when the affection is observed upon the body, or in liquid form with acetic acid when attacking the hairy portions of the body. *Sulphur* has been used in the treatment of *scabies* for a long period and over considerable portions of the world, and is not a whit less useful at this time; but in my clinic the addition of *beta-naphthol* has greatly enhanced its value.

Dermatologists use in addition to the above mentioned drugs two forms of re-

medies which are greatly called for in their work, namely *antiseptics* and *emollients*; the latter are called into play when there is a great amount of accumulation upon the affected region. It may be well to add something in regard to these.

ANTISEPTICS.

While most of the drugs above enumerated possess antiseptic properties, it is no question that some have proved themselves of more antiseptic power than others, and consequently they need a little pruning to ascertain those which have this power to the greatest extent; after performing this service I have chosen the following: *Alum*, *alumnol*, *aristol*, *acetanilid*, *anthrabin*, *beta-naphthol*, *naphthalene*, *boric acid*, *bromine* and *chlorine*, *carbolic acid*, *chrysarobin*, *creolin*, *creosote*, *eucalyptus*, *euophen*, *loretin*, *mercurials*, *ichthyol* and *thiol*, *iodine derivatives*, *pyrogallie acid*, *resorcin*, *sulphur* and *sulphurous acid*, *salol* and *salicylic acid*, *staphisagria*, and *tumenol*; many more could follow, because there are many new and old drugs which could fill this list to an innumerable number.

EMOLLIENTS.

Emollients act either in oil, paste or poultices, or in the form of fomentations in water; while many drugs may have this quality, I will include only those which have proved of good service in my work, and of these the best good has been received from olive oil, applied in large quantities directly to the part for indefinite periods or until the work is accomplished; adeps and suet have here a place, while both flaxseed and slippery elm act well in great accumulations. Oil of bitter almonds can often be relied upon for good service. Starch made into an agglutinous mass may often remove crusted masses. The watery fomentations consist of boric acid in water, or even hot water alone may often prove efficacious; sometimes it may be preferable to assist olive oil with boric acid, or change from olive oil to boiled starch in a given case.

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*THE TREATMENT OF DIPHTHERIA.**

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GENTLEMEN:—In speaking of the treatment of diphtheria, I shall not discuss either the etiology, symptomatology or the pathology of the disease. This lecture was suggested by a question handed down to me by one of the students, asking what I thought of the new treatment for diphtheria, that is, the antitoxin treatment. I think it is well that advances in medicine should be met by severe criticism from the profession; every advance should run the gauntlet, as we would say of other things, instead of being at once accepted and put into practice. Certainly antitoxin has had sufficient criticism. It was launched upon the profession soon after the Koch lymph treatment, and I must say that much of the prejudice against the blood serum treatment of diphtheria has grown out of the failure of tuberculin to cure consumption. We were too sanguine about the so-called lymph treatment of tuberculosis and anticipated results that could not possibly be obtained. Consequently if you were to ask anybody to-day what they thought of the Koch lymph treatment of tuberculosis, it would occasion a smile and perhaps ridicule. That has been caused by over-sanguine expectation. I believe the discovery of Koch, and the laboratory work by Liebrecht and others in regard to antitoxin, and their deductions, instead of being mistakes, have been confirmed by recent experimentation. It was never predicted by Koch or his co-workers that tuberculin should cure tuberculosis if located in parts of the economy where it could not be reached by certain means: the only claim was that it should be an unerring detection of the tubercle bacillus,

and no one can gain say that statement. The only trouble about the Koch treatment of consumption is, that Koch did not propose it as a treatment for consumption but only a means of diagnosis. He never made the statement that it was a cure for tuberculosis; that view was acquired by the people from statements made from time to time in the press. The most unfortunate occurrence of all was his report before the International Congress at Berlin just at the time he was in the midst of his experiments, and while he was unwilling to admit and did not state in his report that tuberculin was a cure for consumption, but gave the results of his work thus far, you know enough about newspaper men and their desire for sensation to understand how much exaggerated such a report would become by the time it appeared in print.

After an experience of this kind it is not surprising that when antitoxin was first mentioned as a cure for diphtheria, the profession should hold it in abeyance with a considerable degree of skepticism. Therefore it was submitted to a very trying ordeal. Its position was maintained, and physicians began to use it with reluctance. That was over three years ago. Now with every succeeding year the advocates of antitoxin have increased and its opponents have diminished until antitoxin is almost the single treatment of diphtheria to-day; it stands about on a par with quinine for chills and fever, which all of you understand. It has run the gauntlet; it has been tried in the balance and has not been found wanting. The severest tests have been made with favorable results.

It cannot be said that all cases of diphtheria will be cured by the use of antitoxin, nor can it be said to any greater extent that all cases of malaria are cured by quinine, hence I have made this comparison. The profession was at first opposed to the administration of quinine, so that the introduction of this agent was attended by ridicule; that it was a terribly

* Clinical Lecture delivered at the Hospital College of Medicine, and contributed exclusively to the AMERICAN THERAPIST.

bitter dose, etc. You understand in those days the sulphate of quinia was unknown, it was Peruvian bark; they had to take a cupful of a strong decoction of the bark to get ten grains of quinine as we now know. It was a bitter dose, and it was often hard work for the patient to keep it down. The old treatment was Peruvian bark, introduced by John Talbot. Until 1820 no one knew anything about quinine. About that time it was discovered that there was something white in Peruvian bark, and it was at first thought there was lime in it. This was the way quinine was discovered, and it was finally extracted from the bark and soon afterwards its value, from a therapeutic standpoint, was recognized. Now, I do not suppose, there is anyone in the profession who does not immediately give quinine as soon as the diagnosis of malaria has been made; but as I have said in my preface, quinine will not cure all cases of malaria.

The most important point about antitoxin is this, and you will see the parallel I have drawn between Koch's lymph and antitoxin,—that antitoxin is death to the bacillus of diphtheria; it is aimed at the Klebs-Loeffler bacillus, which is always destroyed by its influence. This is all that antitoxin is intended to do.

Diphtheria antitoxin is prepared by the introduction of toxine of diphtheria into a healthy animal, horse preferred, because of the fact that he yields so much serum; the injections are continued until the animal becomes immune, then the serum is taken out of the blood of the animal, and this serum contains the antitoxin which we use in the cure of diphtheria. It is a substance which, introduced into the blood of a person having diphtheria, will destroy the Klebs-Loeffler bacillus, so that if it is introduced at the time the membrane is forming by the action of the bacilli, the membrane is exfoliated rapidly, but it must be understood that none of the promulgators of antitoxin thought it was an antidote to the consequences of the bacillus. That is to say, the curative proper-

ties of antitoxin depend entirely upon its being administered when the disease is in its incipency, that is when the membrane is undergoing the process of formation. Now that period of time in cases of diphtheria is more or less shortened, and I believe I am safe in saying that the period in which antitoxin should be used does not extend over three days. So that if antitoxin is to be used it should be at the very inception of the disease. One great trouble which has caused many failures in the management of diphtheria under the use of antitoxin, and there are many people to this day who have not gotten over it, is the prejudice which existed in regard to the blood serum treatment, and the administration of antitoxin was delayed until it was too late. You cannot blame the physician, as the fault was not his. It is a common thing for parents to say, if the child is not better in the morning we will consent to your giving antitoxin. That is why it could not be given in many cases. When used late in the disease it was found that antitoxin failed as well as everything else; then it was found that nearly all cases injected early got well; hence the profession gradually became converted to its use, until now we know something about when and how to use this wonderful cure for diphtheria.

When we come to analyze diphtheria, understand the mode of death, the various manifestations which we may expect if the disease goes on for any length of time unrelieved, we cannot have any reasonable hope that antitoxin will cure diphtheria after the bacilli have been at work for a great length of time. Antitoxin is an antidote only to a certain thing (the Klebs-Loeffler bacillus), it is not claimed that it will destroy the streptococcus, or restore to health ruined tissue cells, or ruined nerve cells. In a short time the whole system of the diphtheria patient becomes saturated with poison, and you are not treating diphtheria after the *third or fifth day*, but you are fighting a *septicemia*. Antitoxin will show its ef-

fect over the membrane in the process of formation but it will not interrupt the septic course of the disease. I claim that these are important points for you to understand.

Another cause of failure, or a reason that there are not more complete cures, is that *para passu* with the introduction of antitoxin came the idea of correct diagnosis; that you should see the patient at once and remove certain portions of the membrane and carry it to the microscopist, who is always ready to make examinations, and then get a report in twenty-four to forty-eight hours whether you are treating a case of diphtheria or not. This came out with the first publication, that it was the duty of every physician to make such a test to assure himself that he was dealing with a genuine case of diphtheria, and if so the antitoxin should be used. That may be very well in science, but it does not work well in practice. The educated physician ought to be able by ocular examination to pronounce upon the question of diphtheria, and it is not necessary, although it would be confirmatory, to make a cultivation of bacilli obtained from the throat or elsewhere to determine whether they were of the Klebs-Loeffler variety, which takes at least twenty-four hours. I say this is not necessary when you have the distinct characteristics of the disease, membrane forming in the throat large enough to be seen below the surface of the tonsil, surrounded by an elevated line that you are satisfied is not the follicle of the tonsil, if it is quite a visible membrane sinking below the surface, or the elevated edge, forming and extending rapidly, I think you are warranted in making the diagnosis of diphtheria, and antitoxin should be used at once. Suppose you should inject antitoxin in a case that was not one of diphtheria, would it be productive of any evil results? Certainly not. This question has been propounded and answered many times since the introduction of antitoxin. It is a great deal better that you should introduce antitoxin in a

case of follicular tonsillitis if you are mistaken in your diagnosis, than to refuse to inject it or omit its use in a case of diphtheria.

Another cause of some of the first failures was an imperfect serum. All things become perfected by experience. There can be no possible doubt that some of the early serums were imperfect, in that due care was not taken to exclude heterogeneous micro-organisms which may act on something else in the serum and consequently would produce different results. There have been some very unfortunate accidents attending the introduction of antitoxin, and some immediate deaths which must necessarily be attributed to the antitoxin because the patients were not in a dying condition at the time. There are accidental deaths in all treatment, and we do not want to look at the matter from a one-sided standpoint. When you come to sum up the whole list of experience, then you have to say that it is hard to disprove facts. Take the facts: we have statistics which show that under the use of antitoxin the mortality has been reduced from fifty and forty per cent. to sixteen and eight per cent. in epidemics which were violent and destructive in their nature. It is only just to say that under proper management and the use of antitoxin the disease has been almost blotted out of existence.

What I do not like, and do not understand so thoroughly perhaps as the manufacturers, is the different potencies of the antitoxin. This is agreeable to the idea of the German and French laboratories in estimating the potency by the amount of the toxine it will overcome, and some physicians have lately expressed their views in regard to the units of the remedy; so many units for immunizing, so many units for curing the disease, and so many units for bad cases, etc. That gets us a little mixed. Antitoxic serum is purposely sent out to the profession in bottles with the explanation that the whole bottle should be used in one case. That is the

intention, that the bottle should not hold enough to be carried to another case. Economy may be practiced in other things; it would be absurd to risk infecting the serum with other micro-organisms by storing open bottles for future use. It is a wise precaution to have the serum bottles contain only sufficient for one case.

In regard to foreign antitoxin and that manufactured at home: Outside of the prejudice of foreign manufacturers, I will say that our own antitoxin is fully the equal of any foreign make. We now have several avenues of supply in our own country, and our friend and colleague, Dr. Cashin, has already instituted measures to produce blood serum in connection with this college. We are very slow, it seems to me, and other places are far in advance to us, and have taken the lead in their own production of blood serum; New York, Philadelphia and Chicago have done much to supply the demands. Most of the antitoxin used here thus far has come from some of the Eastern cities. A great deal depends upon the preservative material. When antitoxin was first introduced, the same material used to preserve tuberculin was employed in the preservation of the serum. When I first used tuberculin it was preserved by carbolic acid. Some of the unfavorable results from the first injections of antitoxin may have been due to the agents used in its preservation. This defect, however, has now been remedied and better preserving agents are used.

In regard to the injection of antitoxin, in the present state of our knowledge every physician should be prepared to inject antitoxin in diphtheria cases. I would advise every physician in private or other practice to provide himself with proper means, because he never knows when he may want to make immediate use of antitoxin, reliable serum and a clean appropriate syringe. If you have a good working hypodermic syringe which is large enough for the purpose, it will

answer very well. The syringe that is used abroad is one that I thoroughly despise. It may be I lack mechanical skill, but I always make a failure where I use the round bulb syringe in letting much of the serum escape after pressure, etc. The ordinary hypodermic syringe, such as is used for tapping hydrocele, etc., with small needles, would be a proper syringe to use, inasmuch as you wish to introduce only about sixty minims of the serum at a time, to be repeated two or three times when occasion demands. A proper syringe is furnished by H. K. Mulford & Co., with the antitoxin which they send out. It has a small nozzle connected by a rubber hose. There is some advantage in this. When you go to inject the antitoxin you will find it difficult to hold the syringe in such position that the serum will be properly discharged; by the use of this little hose connecting the needle this disadvantage is entirely overcome.

As to the various sites for the introduction of antitoxin: The site has nothing to do with the effect. You may introduce it wherever you please, but there are certain parts of the body where the skin is less adherent. If injected at a point where the skin is drawn tight and adherent, you may have some trouble. Between the shoulder blades is a most excellent site; over the loin is equally good. An advantage of injecting the child between the shoulders, is that its face is from you and the manipulation necessary to proper introduction is not witnessed. You know that the preparations for an operation are always as objectionable to the patient and cause as much alarm as the operation itself. Therefore turn the child so that its back is towards you, then prepare your syringe and inject. When you make this injection you must have the syringe tube, needle, etc., thoroughly aseptic. Having introduced the needle, always move the point around slowly until you have made a little bag or pouch into which to put your antitoxin. I never in-

ject anything until I have prepared a place for it in this way. Break up a little bag for it in the cellular tissue, then it will be retained. Otherwise it may leak out, or it may make an unnecessary elevation of the cuticle.

I have just treated a case of septic, purulent, malignant diphtheria by the old plan, and wish to say now that I shall never treat another case that way as long as I am in the practice of medicine. It has been a terrible ordeal. The family opposed the use of antitoxin in this case. In another case I objected to its use, because I was not treating diphtheria *per se*, but was treating a case of sepsis; the diphtheria had gone too far when I was called, it had gone beyond the power of antitoxin to reclaim the patient, and it would only have brought discredit upon the remedy to have injected it. I have had fourteen days of constant fighting with the disease, rather a fight with the child in the manipulations of swabbing, spraying, syringing the nose, etc., because it proved to be a nasal case. This is a terrible thing to do, when you consider that by the introduction of antitoxin you can do without the syringing and spraying. I say it is a terrible thing to a little child, to be subjected to such treatment, when it is already almost exhausted and in constant agony. You have to take the little child up four or five times a day, and the mother usually is a witness to the manipulations, to pull out small fragments of the membrane, to apply your medication by means of the syringe, swab, spray, etc., and where you remove pieces of the membrane to allow free respiration, it is almost immediately re-formed. If you have used antitoxin properly at the beginning of the attack, within twelve hours from the time of its introduction the membrane will begin to show separation and will be easily thrown off. No spraying or swabbing is necessary. If antitoxin did nothing more, it would be a blessing to humanity.

Do we need anything in addition to antitoxin in the proper treatment of diph-

theria? As I have told you antitoxin kills the bacillus of diphtheria; should we use any constitutional treatment while we employ antitoxin? Certainly we should make use of proper systemic treatment, because you are fighting a disease which is generating poison in the system, and we should introduce that agent, or different agents that may be determined upon as proper to protect the patient from fatal poisoning. Use tincture of iron, use whiskey, or other remedies which may be indicated. Iron will never cease to be the best systemic treatment of diphtheria, because it protects the blood from destruction. I do not abandon internal medication because of antitoxin, but do abandon all local applications in the treatment of diphtheria, and this is the plan that has been generally adopted. Antitoxin, however, is the treatment *par excellence*. I believe you will be doing your patients an injustice if you do not treat diphtheria in this manner.

When we come to review the facts that have been gathered in recent epidemics as compared with those of former years, and when we can use an agent like antitoxin and arrest a disease so much dreaded as diphtheria as it has been stopped in Louisville this season, we cannot help saying that medicine has advanced beyond our fondest expectations. Antitoxin has now arrived at the point of complete satisfaction to the profession and the community, and the physician should not only not oppose it but he should be prepared to use it on all occasions. Our treatment is not complete without it, and we have no right to treat a case of diphtheria without proposing its use, and fortunately the supply is amply sufficient to meet all demands.

As to the expense of this preparation: Like all matters that are new, it is very expensive in the start, less so after a few years, but the cost of antitoxin is still considerable. If any of you desire to use it, application can be made and a supply secured through the State Board of Health

of Kentucky, ordered and paid for by them. All that is necessary to make application in proper form to the State Board of Health of this city.

In regard to the various strength: The bottle which I show you is marked 500 units, and is for immunizing purposes; this is to protect or prevent well people, who are exposed, from having diphtheria; that is what we mean by immunizing. The question remains unsettled whether immunizing will be as successful as antitoxin has been as a cure. I must say it has not so proven thus far. The injection for immunizing purposes is made on members of the family who have been exposed to diphtheria in the same manner as we have described in treatment, in order to prevent their having the disease. Statistics in regard to this are not yet such as would warrant the statement that we can immunize successfully against the disease. A moment's reflection, I think, will teach you that it would be unreasonable to expect to immunize against a disease which does not immunize against itself. Now, diphtheria does not prevent you from having diphtheria; in fact, during this season I have had two cases within six months in the same individual. I had one case last winter, a desperate case of diphtheria, recovery taking place in November; then in March the child had another attack, and died. There were only four and a half months between these two attacks, both of the malignant form in the same individual. You may have diphtheria half a dozen times; one attack does not protect you from another. Therefore, I say you cannot expect to immunize the blood, and protect a person for a month against the disease; all we can hope to do is to protect temporarily in the presence of sickness; certainly we must not expect too much from immunizing our patients.

As to the minimum quantity of antitoxin necessary for the cure of diphtheria: There is some difference of opinion upon this point. The preparation we have here

comes from Mulford, and it is stated that 1000 units which is contained in the bottle intended to be used for treatment, is sufficient to be used for an ordinary case of diphtheria. Then we have another bottle put up by the same firm marked "extra potent," containing 2000 units, for bad cases of diphtheria. I think this method is an error on the part of the manufacturers. I want but one kind of serum, and let that be the most powerfully potent that can be made. Just like anything else, if it is good, let us have the best. If I am wrong I am willing to be corrected, but after considerable experience I would rather inject thirty minims of a very strong preparation than two-hundred minims of a weak one. In the child this is a very important consideration, as you cannot inject half an ounce of fluid under the skin, and it will take about that quantity of the weaker serum. My custom is to use the serum marked 2000 units, and inject in the child from five to thirty minims, subject to repetition if the membrane does not show evidences of exfoliation in twelve hours. I will say that I have not had to repeat the injection except in one case. The strongest solution should be preferred, and a less quantity used if it seems advisable, rather than to select the weaker solution and inject a larger quantity.

SOME REMARKS CONCERNING BORAX.

By W. Thornton Parker, M.D., Groveland, Mass.

In the *Druggists' Circular* for May, 1896, an item appeared concerning the *poisonous* effects of borax. The writer called attention to the fact that Dr. Féré, of Paris, claims to have had considerable experience with the drug in the treatment of *intractable* cases of epilepsy. In these cases he states that he has frequently been obliged to give large doses for long periods, and in his experience has met with persons who were peculiarly susceptible to the drug. He noticed in these

cases loss of appetite, succeeded by burning pain in the pit of the stomach, buccal dryness and eventually nausea and vomiting. He also observed that a dryness of the skin was produced, resulting in skin disease of an eczematous nature; there was decided alopecia. He states that the most dangerous result of the use of sodium biborate is its power to increase kidney disease or to convert a slight renal malady into a malignant affection. He also refers to the well known use of borax as a preservative of foods.

The treatment of epilepsy with large doses of borax is by no means new.

An article in the *British Medical Journal* of 1890, contributed by Dr. Stuart, shows that while he has used the drug in reasonable doses he considers that it exercises a peculiar influence over the nocturnal seizures. In his experience bromide of potassium exercised a more powerful influence over the diurnal seizures. In cases suffering from both the diurnal and nocturnal attacks, he found a combination of the bromide of potassium and biborate of sodium the best method of treatment. He has failed to record any instance when the slightest injury resulted in the use of borax.

In the experience of Drs. Hammond, Russell and Taylor, among many cases treated, not one unfavorable symptom was noticed. The patients, as a general rule, were decidedly benefitted; there was no loss of appetite, neither was nausea, vomiting or buccal dryness observed, and the skin retained its normal condition with an absence of any eruption.

Beyond a doubt any remedy, no matter how benign its action in reasonable doses, may readily become noxious when the quantity given is unreasonably large. Thus, common salt used daily at our meals, and with which we are accustomed to season almost every article of food, is capable of exciting a much more injurious effect when employed in unreasonable quantities. The use of borax by medical practitioners dates from the earliest times;

almost every work on the practice of surgery relates to its excellent properties: Pliny refers to its healing qualities and describes its use under the name of Chrysosolla.

Boroglyceride, one of the most powerful antiseptics of modern surgical times, is formed by the combination of borax and glycerine. Since 1882, when it was successfully used in the wards of the Charing Cross Hospital of London, this preparation has been in use in this country as well as in England. It is a most valuable surgical dressing, and can be safely employed in the treatment of wounds without producing any of the constitutional symptoms which are so generally observable when carbolic acid, iodoform, and mercuric bi-chloride are used. It is rapidly coming into general favor, not only among medical men, but also among the laity. Opportunities for using it with perfect safety are very numerous. In household hygiene it is peculiarly valuable. Its protective properties make its use in the kitchen and laundry absolutely necessary.

MICHEL'S PASTE IN EPITHELIOMA OF THE SUPERFICIES OF THE BODY.

By W. O. ROBERTS, M.D.,
Professor of Surgery and Clinical Surgery in the University
of Louisville, etc., Louisville, Ky.

Michel's paste was introduced here and used exclusively for a long time by Dr. D. W. Yandell; it was brought prominently before the profession in the country by him and was used up to the time he discontinued practice. He used it only in cases of epithelioma where he thought paste was indicated, and I have used it since with the best results. The paste is made with French soapstone and chemically pure sulphuric acid. It has to be used within twenty-four hours after it has been made, for it loses its strength, and the addition of more acid does not seem to answer the purpose. It is a powerful

paste, and burns very deeply, and we cannot tell just how deep it is going. In cases where you do not want to go too deeply, the actual cautery is an excellent thing.

The way in which the paste was supplied by Dr. Vandell, and followed by me, is as follows: We take a piece of adhesive plaster and cut a hole in it somewhat larger than the epithelioma, and put this over the epithelioma for the purpose of protecting the healthy tissues, allowing $\frac{1}{8}$ to $\frac{1}{4}$ of an inch around the entire surface of the growth. We then scrape off the surface of the epithelioma, and after bleeding ceases apply the paste, wait a few minutes and then with cotton mop wipe it off; then apply paste again and wipe it off; then apply it the third time and leave it on to dry. A great deal of swelling usually occurs during the next few days, but this should not be disturbed, and when the paste drops off the place has usually healed. In some cases, however, a granulation will be found underneath. I have never had to repeat applications of Michel's paste more than two or three times. Before cocaine came into use, when the paste was applied without any anesthetic, pain would last for about two hours. If the growth is small cocaine may be used for local anesthesia, or if the growth is very large a general anesthetic should be given.

I remember seeing the late Dr. Cowling use arsenious acid paste upon a case of epithelioma, and the patient had a toxic condition resulting from the arsenic. I heard Dr. Cowling mention this to the class; in mentioning the use of arsenious acid paste he cautioned the class against the use of the milder paste. There are two pastes prepared from arsenious acid, and in the case referred to he had used the milder form with results as stated.

PICTOTOXIN.—In the case of a girl twenty years old, with *angio-neurotic edema* of the lower lip, Dr. Eshner prescribed pictotoxin, $\frac{3}{16}$ grain, together with a pill containing one grain each of zinc, quinine, and iron valerianate, thrice daily. —*Phila. Polyclinic.*

THE TREATMENT OF EPITHELIOMA ON THE SUPERFICIES OF THE BODY.*

By I. N. BLOOM, A.B., M.D.,

Clinical Professor of Genito-Urinary Diseases in the University of Louisville, Dermatologist to the Louisville City Hospital, etc., Louisville, Ky.

The following case is interesting more particularly on account of the quickness of development of an epitheliomatous tumor:

One week ago last Saturday I saw a lady aged fifty-three years, the mother of ten children, the wife of a lawyer in good circumstances, with a good family and personal history. She was referred to me by Dr. J. M. Ray of this city. Four weeks before she first noticed a pimple on the tip of her nose. After four weeks had elapsed, between the time this pimple existed and the time I saw her, an undoubted epitheliomatous tumor developed, which was characterized by ulceration and induration; there was also some hyperplasia on half of the tip of the nose extending out for considerable distance. The trouble was unilateral. The hyperplasia represented a zone of blue-red tissue. The ulceration involved the ala of the nose, extending some distance up the nostril, involving the cartilage of the septum, etc. The mass was irregular, and the secretion comparatively slight and not in proportion to the extensive ulceration which existed.

There was no history of heredity, no history of tuberculosis nor did the growth have any appearance of tuberculosis affection. There was no history of syphilis and no reason to suspect such disease. I concurred in Dr. Ray's diagnosis of epithelioma, although a third gentleman who saw the case differed. He did not know what it was, and in private stated to me that he thought it was a phagedenic ulceration of the nose. Having excluded tuberculosis, and desirous of giving her

* Reported to the Louisville Clinical Society and contributed exclusively to THE AMERICAN THERAPIST.

the chance of the affection being syphilitic, I put the woman upon large doses of iodide of potassium, sixty grains three times a day. Under this medication the destruction of tissue was even more rapid than before. The process developed to such an extent that after eight days trial with the iodide of potassium the operation could not be put off any longer, and on Sunday, in the presence of Doctors Ray and O'Reilly, with the patient under the influence of chloroform, I thoroughly curetted the surface of the ulcerated portion, and while where the site permits I am in favor of using lactic acid paste in such cases, here, as I wanted a caustic which would act quickly, I used the caustic potash in the stick. The result after ten days has been extremely gratifying. I cannot at this time make any statement as to the possibility of a return of the growth. I saw the patient for the last time yesterday and there was no recognizable diseased tissue remaining.

I report the case more particularly on account of the extremely rapid development of the epithelioma in a healthy woman, beginning as a papule, developing to the extent shown in the course of four weeks, and at the end of five weeks requiring immediate extirpation. I have the curetted portions in alcohol and will soon have a mount ready for your examination.

The selection of a caustic will frequently depend upon the location and nature of the growth to which you desire to apply it. Where it is on the face, for instance on the cheek, and I have had two or three such cases that have been shown before this society, on the forehead, etc., I prefer the less strong paste composed of lactic and silicic acids. I say this after having had considerable experience. I have reported to this society alone at least a dozen cases of epithelioma of the superficies of the body treated by lactic acid paste, and have shown two or three patients after recovery. You will probably remember the case of Mr. M., who had an epithelioma of the cheek, in whom, after removal of the growth by the application of lactic acid paste, it was only with the most careful search that the cicatrix could be found. Treatment by this method requires considerable time,

the paste sometimes being kept on for twelve hours out of twenty-four, and repeated for several days. An advantage claimed for this paste, which has also been claimed for others, but less truthfully, I believe, is, that the lactic acid paste seems to have a predilection for epitheliomatous tissue. It has been used largely by the throat men, especially in cases of tuberculosis of the larynx, with extremely good results, and I believe they prefer it to any other preparation, but it requires protracted, continuous use for some time, and therefore would not be applicable to such places as the nostril and in many other situations where a quick paste is required. Many here prefer Michel's paste. For a quick paste there is nothing better than caustic potash or caustic soda. The objection to strong acids like sulphuric and nitric is that they burn rather deeper than you care to, and hence cannot be controlled; you get more destruction than is desired. The liquifying effect of caustic potash is wonderful. On account of its liquifying effect it is necessary to prepare the neighboring parts to prevent corrosive action extending further than is desired. The tissues seem to liquify and run away with the paste. There are a great variety of pastes made from arsenious acid, and their use is especially popular in Germany.

In the case I have reported, the woman complained of no pain from the application of caustic potash after the anesthesia passed off. With lactic acid the application is painful. In one case that I have reported to this society, in which there was an epitheliomatous growth extending in and around the ear, the patient complained of pain to such extent that after a while he refused to use the paste. The three or four applications made produced a wonderful improvement, as to regeneration of tissue and destruction of diseased tissue. Pain is usually considerable, and it requires courage on the part of the patient to bear it. In the case of Mr. M., there was little pain, and the resulting eschar is the smallest that I have known from the application of lactic acid paste. This is one of the reasons I prefer it over other pastes, the cosmetic effect is much more favorable. It must have a predilection for cancerous structures, leaving the healthy tissues alone, otherwise I cannot account for the rapidity of its action and the small amount of unsightly cicatrization that exists after its use.

THE AMERICAN THERAPIST.

A Monthly Record of Modern Therapeutics,

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Subscription Price, - - \$1.00 per annum.

PUBLICATION OFFICE, 73 TO 79 FULTON ST., NEW YORK.

Address all communications to

THE AMERICAN THERAPIST,

P. O. Box 1170.

New York City.

Vol. VI. OCTOBER 15th, 1897. No. 4.

Editorial.

DIAGNOSTIC THERAPEUTICS.

Our attention has been called to this point by a question put to a physician who reported a case of typhoid fever in which he had excluded the possibility of malaria by administering a large dose of quinine: "Doctor, how would you like to take such a dose of quinine if you had typhoid and did not have malaria?"

Let us enumerate some of the diseases in which the effect, or a lack of effect, of drugs is commonly used as a diagnostic point. Such diagnosis must, in its nature, deal very largely with specifics, and specifics, even in an inexact sense, are comparatively rare. Aside from the discrimination regarding malaria by the use of quinine, we may mention the diagnostic use of mercurials in suspected syphilis, the diagnostic and prognostic use of iron when pernicious anemia is in question, and the administration of salicylates to determine whether a painful affection of the extremities is rheumatic or not. There are also various conditions in which specific mechanical or chemical effects are sought, and in which the effect is used as an argument for or against a corresponding state. Thus, in dyspepsia, many physicians give soda, and a few hydrochloric acid as a matter of routine, with the proviso that they will change the method of treatment if the drug disagrees;

in other words, if their conception of the nature of the case is contradicted by the result of treatment. Again, in cases in which the bowels have not moved for several days the diagnosis of the exact cause of obstruction is based very largely on the effects obtained from cathartics. The tuberculin test and, to some degree, the use of other disease-serums and of animal extracts, are to be included in this category. Quite different in principle is the use of drugs like potassium iodide, salol, soda, benzoic acid, etc., to determine certain processes of digestion and elimination.

In general, it is unsatisfactory and degrading to one's sense of diagnostic pride, to depend upon the result of tentative medication to settle a question of identity of disease. In many of the instances cited, there are particular reasons against the "cut and dry" method of establishing a diagnosis. The administration of a large dose of quinine in a case in which the diagnosis is between typhoid and some other fever, interferes with the value of a blood examination, as it produces a leucocytosis whose absence is quite characteristic of either typhoid or malaria, and as it renders the finding of the malarial parasite—if present—almost impossible. Although the exact physiological moment of the leucocyte changes of health and disease is still unknown, we may well ask whether a harmful effect is not to be attributed to a drug which materially changes the relations standard for a given disease. At any rate, there is abundant clinical evidence of the discomfort, if not serious danger, arising from the unnecessary use of quinine. In the case of pregnant women, it is possible that quinine may increase the tendency to abortion already present in fevers. Without doubt, the danger from the drug is less than from malaria, but the statement that the fear of abortifacient properties in quinine depends entirely on "post hoc propter hoc" arguments from its use in malaria, is not yet definitely settled. We know of two

or three married women who have successfully produced a number of abortions by taking quinine.

In the case of syphilis, it is now quite generally conceded that it is better to let the disease establish itself than to leave the patient in doubt as to whether he has, or has not, this scourge of civilized vice. The moral, mental and social importance of this knowledge needs no argument. About two years ago, JUSTUS reported to the German Dermatological Association, an original test of primary (not later stages of) syphilis. He claimed that an injection of mercury in this stage is followed by a rapid fall of hemoglobin, within twenty-four hours, which does not occur in non-syphilitic cases. This test, if reliable, is scarcely to be included in the sweeping denunciation of therapeutic experiment, any more than the tuberculin test or any other in which an opinion is immediately deduced from scientific observation of metabolic changes. Our condemnation applies only to the tedious observation of symptoms following the continued administration of drugs. In some instances, however, prognosis and even diagnosis must depend largely on therapy, simply from the lack of definite scientific knowledge. For instance, the length of treatment of a case of syphilis—and one might say the same of almost every other disease—depends on the observed effect of that treatment. Without conceding that every case which tolerates mercury is one of syphilis, we must confess that in many cases which give an indistinct history of exposure, infection and early treatment, the toleration is almost the only sign upon which a diagnosis can be based.

Superficially considered, the administration of iron in anemia is one of the plainest indications in all therapeutics; but we too often forget that iron is a food rather than a drug, and that we must exercise the same common sense and scientific reasoning in its administration as in that of other foods. We would not feed

a starving man to satiety; we do not say that fat is fit for nothing but soap-making because some emaciated persons cannot assimilate it; we are not surprised that individuals deficient in muscular and nervous strength cannot take large quantities of proteid; we do not dream of supplying the waste of sugar in diabetes by a liberal carbohydrate diet. In the treatment of anemia, we ought to know, first, all the particulars of a blood examination; and, secondly, we ought to expect to have to use the same clinical and theoretical reasoning in obtaining an assimilable form of iron as of any other needed ingredient of the system. Because we can not dump iron powder into the stomach and immediately cure an anemia, or because gastro-enteric symptoms are sometimes produced, we must not conclude, as some have done, either that iron is not needed or that it is worthless as a medicine. In many cases, patients who need iron, do better on arsenic. Why and how arsenic acts in anemias is not understood; perhaps the correct explanation is the very simple one that arsenic is one of the best intestinal antiseptics, and that it does away with hydrosulphuric acid and other products of fermentation in the intestine that are so frequently the cause of toxemic anemia.

In dyspepsia, the fact that soda produces relief is, by no means, evidence that essential superacidity exists. With the exception of the entrance of large quantities of bile, blood or other alkaline foreign substances into the cavity of the stomach, its contents are always acid—disregarding the neutral and scanty moisture of the empty organ—hydrochloric acid being present when normal secretion is fully established, or if the secretory power is excessive; fermentation acids being present if the normal inorganic acidity is lacking. Thus, the extremes of hydrochloric excess and hydrochloric deficiency meet in producing very similar symptoms of gastric irritation, which may be temporarily checked by an alkali. As

deficiency of hydrochloric acid is more common than excess, the man who administers hydrochloric acid as a routine is several times as likely to do the right thing as the man who gives soda, which is never more than a palliative. But, so long as he is basing his diagnosis solely on the results of treatment, he differs from the other only in the mathematical probability of guessing correctly. Again and again we have observed patients whose treatment with hydrochloric acid has been abandoned "because it disagreed," but who showed the plainest need of its continuance, and who verified the scientific examination by the ultimate result.

In regard to the diagnosis between the various forms of obstipation by the result of catharsis, we need only remind our readers that every surgical authority emphasizes the risk of cathartics in such cases and the importance of early and accurate diagnosis.

In diseases of the thyroid, there is already sufficient clinical evidence to support the rational theoretical inference that we must discriminate sharply between diseases of elevated and of depressed function; atrophic condition, especially myxedema, being benefitted by the use of the extract, while exophthalmic goitre is made worse. The same consideration of physiological principles should be carried into experimentation with other animal extracts. And, finally, we must urge the necessity of separating diagnosis and prognosis from therapy, except when we are compelled to lament our ignorance as an excuse for blind empiricism in a reverse direction.

DOUBLE ANTITOXIC SERUM.—In connection with Dr. Larrabee's statement concerning the use of serum in diphtheritic cases with mixed infection, it is well to remember that our manufacturers supply a double serum which effectively battles against both diphtheria and streptococcus. And positive proof of the immunizing power of the serum has also been adduced.

Current Literature.

A NEW THROAT SPRAY.—Dr. H. L. Armstrong, surgeon to the Manhattan Hospital, recommends (*N. Y. Medical Journal*, April, 1899) the following prescription as almost a specific in acute inflammation of the upper air passages, both of the traumatic and nervous varieties:

R. Eucain..... gr. x
Cocain. mur..... gr. x
Aq..... oz. vi

M. Sig.—Spray every hour in the nose sufficient to be left in the throat.

If the patient is taught to inhale while using this spray, so that the solution may be carried well within the larynx, it is far more beneficial than it otherwise would be. The advantage of this combination is that, whilst cocaine is a valuable remedy of itself, the danger has been the liability of the patient to become addicted to its use. By the combination of eucain, which is a thoroughly local anesthetic in the nose, the nervous excitability produced by cocaine will not be developed, thereby making the prescription perfectly safe, as nobody will contract the cocaine habit by using this combination.

TREATMENT OF HABIT CHOREA.—Sinkler (*Univ. Med. Mag., ex American Journal of the Medical Sciences*, May 1897) presents an interesting study of habit chorea based on 143 cases treated at the Philadelphia Infirmary for Nervous Diseases. The majority of cases depend on some distinct and positive cause which must be recognized and removed when possible. In cases of long standing, however, it is not sufficient merely to get rid of the cause, for the nerve-centres do not recover from their vicious habit until systematic treatment has been pursued. This is especially true of cases depending on an error of refraction, and more or less of those cases in which nasal or throat disease has been the primary factor. The point of importance is to look after the general health. Tonics, especially chaly-

beates, should be administered, and, if possible, change of air is to be obtained. In school children it is usually necessary to stop study for a time. Arsenic exerts a special influence on the disease, and to be of value should be administered in gradually ascending doses until some toxic influence is observed. S. Weir Mitchell pointed out many years ago that some cases of habit chorea which were not relieved by internal administration of arsenic were cured by its exhibition hypodermically. Any form of punishment is to be deprecated, but in every case much can be done by the promise of reward. Much benefit will be derived from offering a premium whenever the movements are controlled for a certain length of time. The most speedily beneficial results are obtained by a modified course of rest-treatment.

AN ADVOCATE OF BLOOD-LETTING.—Hoff (*Jour. Amer. Med. Assn.*, August 28, 1897) reports twenty-six cases in which after other remedies proved unsuccessful, venesection restored the patients to life. The list includes puerperal fever, eclampsia, paralysis from congestion of the brain, brain fever, meningitis, and cerebro-spinal meningitis, pneumonitis in its first stages, congestion of the lungs, liver, and abdominal viscera, peritonitis, croup, tonsillitis, hemorrhage of the lungs, and incipient phthisis. "Repeated bleedings," says the writer, "will do more to cure consumption in its early stages than any other single agent, especially when used in conjunction with an open-air life, and in dry and medium high atmosphere." Hoff would have every medical student instructed in the art of venesection, so as to be ready to apply this much-neglected therapeutic measure in cases of acute congestion of the internal organs.—*Med. News.*

Simultaneously with the above, Dr. C. A. Murray publishes a careful and logical argument in favor of "Bloodletting as a Therapeutic Measure" in the *Buffalo Med. and Surg. Journal*. He quotes several

cases favorably treated by his method, and refers to many others in his practice; his paper is concluded thus: "I deplore the total decline of bloodletting. I believe the physician who, through fear, fails to bleed his patient when necessary, does not accomplish his whole duty. The fact that bloodletting in former years has been largely overdone is no excuse for its total suppression to-day. I am, therefore, one of the few who believe there are occasional cases, even in this age of debility and neuralgias, of nervous diseases and typhoid conditions, in which bleeding is not only beneficial, but absolutely necessary."

A THERAPEUTIC POTPOURRI.—Dr. Cattell gives the following brief résumé of the most recent advances in therapeutics (quotes the *Medical Review of Reviews* from *Internat. Med. Mag.*, August, 1897): Paraform pastilles may be purchased, which by the aid of a small special apparatus, will quickly generate active formic aldehyde gas. An aqueous glycerin extract of the lungs of sheep is used by Brunet, both by the mouth and hypodermically, in the treatment of pulmonary affections. Sodium copaibate, from ten to twenty-five grains, four, five, or six times a day, is useful in the treatment of gonorrhea, and is not so irritating to the intestinal tract and kidneys as corresponding doses of the oil of copaiba. Boric acid is of some value for the removal of the indelible yellow stains which sometimes remain upon the skin where burns have been treated with picric acid. When the skin has been burnt with carbolic acid apply alcohol and wash in running water. The virulence of scarlet fever may be mitigated by large doses of carbolic acid frequently repeated, and it is said that any person taking scarlet fever from a patient who has been under this treatment will invariably have the disease in a milder form. For the paroxysms of angina pectoris Osler recommends nitrate of amyl in doses of from two to five minims, large doses of morphine

hypodermically, and, when very severe, inhalations of chloroform. Thymus gland, eight grains, three times a day, gradually increased to from fifty to one hundred grains daily, is used in the treatment of exophthalmic goitre. Apioline has been used successfully in neurotic dysmenorrhea. An infusion of birch leaves acts as a diuretic. It is said that the Roentgen rays have been used with some success for the removal of hairy, pigmented moles. Stowell says that thyroid-gland extract is an excellent galactagogue. Gillette has found the injection of a teaspoonful of hydrogen dioxide an efficient remedy for epistaxis. Mariotti, after evacuating the contents of a tuberculous abscess, injects a ten per cent. solution of oil of cloves suspended in sterilized oils. Chantemesse believes that the antitoxins may be injected into the rectum, after an enema, in the same doses and with as good results, as when employed hypodermically. Bienwald has arrested the hemorrhage of a small wound on the face of an hemophilic by the application of freshly-drawn blood from a healthy woman. Wright has had success with a solution of fibrin ferment and chloride of calcium as a styptic.

ANTITOXINE IN THE TREATMENT OF TETANUS.—In a discussion following the reading of a paper by above title, by Dr. F. S. Dennis, various interesting and favorable statements were vouchsafed by the members of the New York Surgical Society, as printed in the *Annals of Surgery*. Dr. Howard Lilienthal, whose experience makes him eminently competent to speak on the subject, said he could recall two cases, recently reported, which were of considerable interest. One was by Dr. Cokemower, published in a recent number of the *Journal of the American Medical Association*. The patient had had as many as seventy-five convulsions in an hour. Dr. Cokemower gave him forty grammes of some one of the liquid antitoxine serums, and within twenty-four hours the convulsions were reduced to

ten, and later the paroxysms were also much milder when the antitoxine gave out. More serum could not be procured, and the man died of a return of the symptoms. The other case was reported in the *Centralblatt für Chirurgie*, by Helferich's assistant, Dr. Trapp. The symptoms had come on eight days after the injury, the patient had opisthotonos and extreme trismus. He recovered under the influence of antitoxine.

Dr. Lilienthal thought the ideal thing would be, if one knew in what cases tetanus would be liable to develop, to use antitoxine as a prophylactic. It was also of interest to note what the author had said of the danger of stopping the treatment too soon, and of giving too little of the antitoxine. Koch had remarked in his new paper on tuberculin that in tetanus, after all the symptoms had disappeared, and the patient had apparently been cured, the symptoms might return because the bacilli were present to manufacture more poison. As to the evil effects of serum, of course they were very much like the evil effects of any serum. But they were going to diminish. Experience had shown that the serum of certain horses would cause various symptoms,—not only urticaria, but nephritis, swelling of the lymphatics, etc. It seemed to be the serum of only individual horses which produced such results.

Dr. J. D. Rushmore said that in the *Brooklyn Medical Journal*, October, 1896, the following case was reported: A boy over five years of age was brought to St. Peter's, Brooklyn, on May 1, 1896. A week before, while barefoot, walking in the yard, he had cut his foot. The wound healed promptly. The third day the boy began to have tetanoid symptoms,—the shortest time after an injury that he had ever seen tetanoid symptoms develop. They came on very rapidly. He was brought to the hospital four days later, not having had any treatment. He had the characteristic symptoms of acute tetanus. Antitoxine was obtained from the

N. Y. Pasteur Institute, and was administered in half-ounce doses at intervals of six hours for six days. The injections were followed by no trouble except at one spot, where a small abscess formed. The temperature at no time was very high, and it was a notable fact, in contrast with most experience with this remedy, that there was no appreciable effect except that the patient got gradually better from day to day. There was no reduction of the temperature; no apparent relaxation of the spasms followed the injections. Four weeks after entering the hospital he went out practically well. It is fair to state that he was treated with bromide and chloral. What the antitoxine had to do with the recovery he did not know, but in other acute cases in which he had used chloral and bromide alone all of the patients had died. It is important, he thought, to use the antitoxine as early as possible,—with the first rigidity of the abdominal muscles and before the development of lock-jaw.

POTASSIUM PERMANGANATE IN OPIUM POISONING.—Moor (*Therapeutische Wochenschrift*, No. 7, 1897) states that more than ninety instances of the successful use of potassium manganate in opium-poisoning have been reported. He advises the administration of seven or eight grains in diluted solution to antidote the opium or morphine in the stomach, and this is to be followed by one grain in solution at frequent intervals, to antagonize the morphine subsequently eliminated by the gastric mucous membrane. The subcutaneous injection of one per cent. solution is also recommended as a physiological antidote.—*Univ. Med. Magazine*.

TREATMENT OF ASTHMA.—Dr. S. Solis-Cohen (Phila. *Polyclinic*) frequently prescribes the fluid extract of quebracho in the treatment of asthma, whether of the bronchial or purely spasmodic variety. The dose is from 30 minims to a fluidram, and may be repeated hourly or less frequently, according to circumstances.

When the stomach is irritable it should be given in a bland vehicle, or some liquid preparation of pepsin. It acts promptly or not at all. Unless relief is experienced within 48 hours it should be discontinued. When useful it may be continued in combination with an antispasmodic, such as sodium nitrite, with a sedative like strontium bromide, or with an ammonium salt or other expectorant.

THE TREATMENT OF ANEMIA.—*Archives of Pediatrics* (Oct., 1897, p. 780) says: The following method is one of the most efficient at our command for the treatment of anemia or chlorosis. Take

Ferratin	15 grams
Natr. bicarb.....	9 “
Sacchar. alb.	15 “

Divide into thirty powders. Administer a powder three times daily in a glass of sweetened water.

This is designed for children over fifteen years of age. The dose for children between five and fifteen years is half this amount, and one quarter the amount for children under five years. An overdose causes no harm, for about twenty per cent. of ferratin is absorbed, without deranging the stomach or causing constipation.

CONTRA-INDICATION TO SODIUM SALICYLATE IN RHEUMATISM.—Jaccoud (*Lyon Médical* March 14, 1897—*Univ. Med. Magazine*) believes that grave consequences may result from the employment of sodium salicylate in acute rheumatism with visceral localizations. It not only neither cures nor prevents them, but it may even favor their production. The drug should be suspended when delirium sets in before the diagnosis of cerebral rheumatism is established. This is necessary also if the delirium be of an alcoholic or hysterical nature, or result from any intoxication. In the cardio-pulmonary complications the same is also true. During the past ten years Jaccoud has observed that salicylates lower the fever and relieve the pain, but do not influence at all these localizations. By persisting in their employment, he believes that involvement of the myocardium is hastened.

The American Therapist.

A MONTHLY RECORD OF MODERN THERAPEUTICS,

WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

VOL. VI.

NEW YORK, NOVEMBER 15th, 1897.

No. 5.

Original Articles.

A CASE OF DELIRIUM TREMENS.

By J. M. FRENCH, M.D.,

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A. C., a professional man, 40 years of age, large and powerfully built, dark-haired and full-blooded, was brought to me to be treated for alcoholic inebriety, on Tuesday, June 24, 1897, at noon. He had been drinking most of the time for six months, during which period he had had five or six attacks of delirium tremens, some of them of considerable severity. His physician, who accompanied him, informed me that there was at times albumen in the urine. He had used morphine to a considerable extent during this period of hard drinking, mostly in the effort to sober off, and to enable him to perform his professional duties.

He had taken five drinks of whiskey during the forenoon, and two hypodermics of morphine. His face was flushed, his eyes bright, and conjunctiva injected, showing cerebral congestion. His pulse was 80, and he was able to converse rationally, though restless, starting uneasily, and plainly under the influence of drugs. The most marked symptom pertaining to the nutritive system was the somewhat unusual one of persistent wretching and vomiting, nothing whatever being retained upon his stomach. He was extremely thirsty, and I allowed him to take cool water freely, but only in frequent sips, a small quantity at a time, in the hope that it would aid in washing out not only the alimentary canal, but the alcohol-laden tissues. The water was

regularly and promptly rejected, however, and the constant straining produced considerable muscular soreness.

As night drew on, he began to suffer from hallucinations of sight and hearing. His especial *bete noir* was "two big black fellows," who pursued him with malicious intent at intervals for a week. Yet he knew very well, at first, the unreality of his visions, which thus stopped short of becoming delusions. Sometimes his eyes were closed, but he got no sleep. The muscular tremor was marked, and his hands were constantly engaged in irregular movements. His pulse rose to 110 during the night, and he was constantly unquiet, but never violent. During most of the time he was in a profuse perspiration, which was nature's method of aiding in the elimination of toxic products. From noon until morning he took two drinks of whiskey and two bottles of beer, none of which was retained more than a few minutes. His bowels were obstinately constipated, and he took no nourishment. Of medicines, he received one-fortieth of a grain of strychnia nitrate hypodermically; and this remedy, in slightly varying doses, was given regularly thereafter four times each day during the whole of the week. He was also given two compound cathartic pills and fifteen grains of trional, all of which were promptly rejected.

On Friday he remained in his room all day, most of the time in bed. During the twenty-four hours, reckoning from morning till morning, he drank one bottle of beer and two small drinks of whiskey. But little of this was retained, nor was the water, of which, however, he drank much less than the day before. Valentine's

meat juice and clam bouillon were given for nourishment, but nothing was retained more than a short time. As the cathartic pills had produced no effect upon the bowels, copious injections of soap and water were given, but all to no purpose.

Towards night he grew more delirious, the hallucinations deepening into delusions. A second dose of trional having been rejected, one-fourth of a grain of morphine was given hypodermically, without any perceptible effect, owing probably to the smallness of the dose. I then gave one one-hundredth of a grain of hyoscine hydrobromate, a remedy which is commonly of special value in the busy delirium of drunkards. The effect was rather to increase the delirium than otherwise. I then remembered the statement of his physician, that he had found the effect of hyoscine upon him to be unfavorable, and therefore gave no more of it.

During the night his pulse rose to 120, and his temperature to 101° F. His hands were constantly in tremulous motion, seeming to be engaged in threading a fine needle, or in ravelling the threads out of a blanket. He would not be kept in bed, but persisted at frequent intervals in getting up, and going through the motions of putting on his clothes, which he did without much sense or knowledge of what was in his hands. He would pull a sheet down over his head as though it were his shirt, go through the motions of buttoning up a blanket around him for his trousers, and persistently endeavor to button his cuffs—which he insisted upon wearing—upon the sleeve of his undervest or night-shirt. He had no sleep all night, but saw the big black fellows pursuing him, whenever he was left alone for a few minutes. Conversation soothed him and took up his attention to some extent, but constant care and close watching were required to keep him from getting up and wandering away in the darkness.

On Saturday morning I gave him one grain of codeine by rectal injection, which quieted him somewhat, but did not pro-

duce sleep. During the day he continued to vomit, and was able to retain no nourishment. Repeated injections of glycerine finally succeeded in producing the much-desired, copious, dark-colored evacuations from the bowels. It may be stated here that the urine was abundant throughout and did not vary essentially from the normal. Repeated examinations failed to show any trace of albumen. Throughout the day he drank no whiskey or beer. He was subject to frequent hallucinations and illusions, which at times deepened into delusions, and at others passed away and left his mind comparatively clear. At such periods he would congratulate himself that he was in a place where he could be properly cared for and controlled, rather than at his own home, where, he said, he should surely have broken away from all restraint, and rushed out upon the streets in his drunken frenzy.

As night came on he grew worse again, his pulse and temperature rose, his heart became weak and irregular in its action, and two attendants were kept busy all night long, in watching, talking with, humoring and restraining him by turns. He talked incessantly and deliriously, his hands were in constant tremor, and nearly as constantly picking at the imaginary threads on the sheet, or threading invisible needles. The two big black fellows still pursued him, and he had numerous imaginary and unwelcome visitors of both sexes. He would lie down for a few minutes, then insist upon getting up, and could not be restrained. Finally he succeeded in getting most of his clothes in his hands, and putting them on, declaring that he would not stay any longer in such a place, but was going down to the office of the hotel in which he imagined himself a guest, and insist upon having another room, where he could lock the door and keep out intruders. He became very indignant at the loss of a pocket-knife, which had been carefully removed from his pockets, as an unsafe article for him to handle. But the absence of the knife

very nearly caused more trouble than its presence would have done, and he was with difficulty restrained from proceeding to extreme measures in his search for the lost article. Whenever he became in any degree quiet, he kept up the endless movements of threading needles and picking out threads. During the early part of the night he was given a drink of beer, which he vomited; and this was the last liquor of any kind which he drank.

At about half past two, his insane delirium increased to such an extent that he insisted upon undertaking a minute visual examination and careful manual investigation of the material which he had but recently vomited. This disgusting procedure seemed to indicate a condition which called for physical restraint, which had heretofore been employed only in very slight degree. He was therefore seized by two attendants, who carried him resisting to the bed, and held him down. He struggled vigorously until convinced of the futility of resistance, when he gave up and accepted the inevitable. He then quieted down, and at three o'clock dozed off into an uneasy something which was far enough from sleep, though bearing more resemblance to it than anything he had previously had.

The medical treatment of the night embraced one-half grain of morphine early in the evening, with one-fourth grain later, neither of which seemed to produce any favorable effect. After he had once grown somewhat more quiet, cold bathing and cold compresses on the head, neck, and spine aided the favorable effect, and was frequently repeated thereafter, seeming to produce a more quieting effect than anything else. This night was the most unquiet of any, and here the disease seemed to have reached its crisis.

On Sunday he was mildly delirious all day. Remained in his room. Did not vomit quite so much. Kept down a little meat juice for an hour or more, but rejected a sedative mixture containing bromide and chloral. A warm bath and

massage aided elimination and helped him to lie quiet for a little time. Towards night I gave him one-fourth grain of morphine hypodermically, and twice during the night a grain of codeine by rectal injection. This was the last opiate in any form which he took, and he had already ceased taking any alcoholics.

During the night he was restless, uneasy, delirious, wandering up and down the room, haunted by visions of the black men, and sometimes of women invading his room, and whom he tried to drive out. On the whole, he was much less wildly delirious than the night before, and required but one attendant.

At three o'clock on Monday morning he again partially lost consciousness and dozed uneasily, his would-be slumber broken by frequent ejaculations and constant motion, but lasting in this half-hearted way for several hours.

During the day his bowels moved freely. Retained Valentine's meat juice and clam bouillon. Towards night he came down stairs and sat on the piazza, conversing rationally for a time, and then becoming gloomy, morose and suspicious. Went to bed at nine o'clock, and dozed off unquietly at ten, keeping up the tremor and occupation-movements constantly. During the night he was startled by the rain, and imagined himself in a ship at sea, with the waves dashing about him. Had no good sleep. Was quite delirious at times, but could easily be controlled.

On Tuesday the rain continued, and exercised a depressing influence on the patient. He was cross, out of sorts, found fault with everything, and declared he would stay no longer. Retained food better than before. Came down stairs in the afternoon, but went to bed at eight o'clock. Had a restless and wandering night. Was in bed most of the time from ten until two, but not asleep. Then got up and wandered around the room, delirious but not violent.

On Wednesday there was no more vomiting. Ate eggs on toast, and drank

coffee. Took three good meals. Was rational most of the time during the day, but towards night saw men and things passing by the door which did not exist. Went to bed at ten o'clock. At half past one he got up and began moving all the furniture from one side of the room to the other, with the object, as he declared, of driving out the women who had invaded his room, and were hiding behind the different pieces of furniture. Cold compresses aided in quieting him, and at two o'clock he fell asleep and slept seven hours quietly—the first really good and sound sleep he had had. Awakening, he soon fell asleep again, and slept two hours longer.

From this time on there was a gradual improvement, with occasional nerve-storms, but no more delirium, no hallucinations, no tremor. He was given a systematic course of treatment, and was discharged at the end of a month, free from all desire for alcoholics, and in good physical and mental condition.

CONCLUSIONS.

I have thought this case worthy of reporting somewhat in detail, both on account of its intrinsic interest as an example of a severe case of the disease under consideration uncomplicated by traumatism, and as affording an opportunity of calling attention to a few points—some of them disputed—in its etiology and treatment.

I believe that delirium tremens is caused by the saturation of the system with the toxic products of alcohol, which, acting chiefly upon the nervous system, produce the characteristic symptom of tremor, delirium, and sleeplessness—a sort of secondary alcoholic intoxication, as ordinary drunkenness is a primary intoxication. This theory, if true, explains why delirium tremens never occurs as the result of a single excess in drinking, or even of occasional sprees. It is favored by any condition of the system, whether amounting to positive disease or not, which hinders the diminution of waste products. Disease of the kidneys especially predisposes.

It is a self-limited disease, in the sense that it ceases with the diminution of the toxic cause.

TREATMENT.

The indications of treatment are three in number, of which the first and most important is *elimination*. This may be accomplished by the bowels, the lungs and skin, and especially by the kidneys. Remove the poison, and the patient recovers, unless the system is already overwhelmed. Norman Kerr advocates the use of liquor ammoniae acetatis as a sovereign remedy for this purpose.

The second indication is *sedation*. Quiet the nervous system and induce sleep, and thus prevent the nerve-centres from being exhausted, until time enough has elapsed for the toxins to be eliminated. But in my judgment—which I must confess is contrary to the generally expressed belief—*sleep does not cure the disease*. Nothing will do this but the diminution of the morbid cause. Sleep does, however, prevent undue wear and tear, and conserve vitality in this way. It is a most favorable occurrence, moreover, both on account of its beneficial effect and still more, because it does not occur except in proportion as the poisons are being eliminated from the blood, and the patient is rallying from their effect. It is, therefore, not so much the cause, as an indication of decided improvement.

The third and last indication is *support*. Keep up the strength of the patient, and recovery is sure to follow. If the disease does not wear out the patient, it will wear itself out, and disappear with the disappearance of its cause. For this purpose, proper nourishment is mainly to be depended on. In the irritable condition of the stomach which usually exists, Valentine's meat juice is an excellent preparation, as are also in some cases bovine, liquid peptonoids, and malted milk. When a patient can eat, digest and assimilate, he is surely improving.

Among medicinal agents, I have found nothing of greater value than strychnine

nitrate given hypodermically. It tones up the entire nervous system, lessens the tremor, and sometimes even the delirium. Its value is especially marked in those cases of weak heart which frequently occur, and cause much alarm.

Two important questions pertaining to the medicinal treatment of delirium tremens, upon which much difference of opinion exists, even among observers of wide experience, are those relating to the use of alcoholics and opiates. As a rule, opiates must be used in large doses in order to be of any avail; and when so used it cannot be denied that they are unsafe. As to alcohol, its sudden withdrawal is considered to be dangerous by many who therefore administer it freely during the early stages of the disease. This is denied by others of equal eminence, who regard entire abstinence as the first essential of correct treatment. Of both classes of drugs it may be said that they tend to perpetuate the toxic cause of the diseased condition.

AN UNEQUALLED DIGESTANT.—In a paper on the treatment of uterine tumors, Dr. Winslow Anderson says (*Pacific Medical Journal*): As a digestant, an artificial gastric juice may be given after meals; for this purpose I have found nothing to equal:

R Papain..... gr. i.
Acidi Hydrochlorici diluti..... M. v.
Ess. Pepsini, q. s. ad..... ʒss.
M. et ft. Solutio.

Signa: Take after each meal.

SEVERE EXANTHEM RESULTING FROM SALIPYRIN.—Dr. Fedor Schmey (*Therap. Monatshefte*, 1897, Heft 3, S. 175.—*Amer. Jour. Med. Sciences*) details the history of a fifty-four-year-old man who had been treated in years preceding for nephritis. Sixty grains of the powder were given in four doses. On the next day an eruption appeared upon his scrotum, which became a large, markedly oedematous, infiltrated red surface. The following day the patient, against advice, repeated the drug. Necrosis of the affected areas followed, and a deep wound-cavity was left which healed under sublimate solutions. The urine showed a notable amount of albumin.

LATENT MALARIA.*

By Dr. JOSEPH M. MATHEWS,
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Medicine, etc., Louisville, Ky.

I remember when I was a medical student hearing the late Professor Bell talk about latent malaria, and often wondered if what he said was true. In my practice I am more and more convinced that he was correct. For a number of years I have observed that after doing a surgical operation upon a well person, save, of course, the local trouble, that hailed from a malarious district, after the operation perhaps in five, six or seven days, there developed a chill, fever, sweating, etc.; that unless this was combatted by the free administration of anti-periodics the patient would go into a well-defined intermittent or remittent fever.

At St. Joseph Infirmary to-day I have three patients suffering from this condition. Two of them came here from the South, and the other from Lexington, Ky. And these are simply samples of many other cases that I have had, who came from malarial districts. I say malarial qualifiedly, because in my note book will be observed that the patients coming from Mississippi, and other southern states, and in these especially, there developed a fever that I call malarial fever after surgical operations. It is a fever which is easily combatted by antiperiodics; usually sixty to ninety grains of quinine are required to break it up, preceded by some calomel. It has been so often observed by myself, tracing as I can the history of malaria on the part of the patients or the districts from which they hailed, that I cannot hesitate to believe that there is such a thing as latent malaria which is developed by confinement to bed. Nothing serious ever attends these cases, except that the fever always alarms the patient, and it lasts from a week to two

* Reported to the Louisville Clinical Society and contributed exclusively to THE AMERICAN THERAPIST.

weeks before the attack is broken up, sometimes only two or three days.

The only point I want to raise is with the surgeons especially, if they have noticed after doing a surgical operation upon patients who are apparently well except for the local trouble, there has developed a fever, which, I must say, has been common in my practice in patients hailing from Texas, Mississippi, Florida, and Arkansas especially. It is a curious point to me to know whether or not it is true that malaria can be latent in the system, and be brought out simply by confinement in bed. It certainly occurs in my practice with considerable frequency.

DISCUSSION.

Dr. F. W. Samuel.—Possibly Dr. Mathews has not looked upon this subject as due to intestinal toxemia. I have noticed in the last year after surgical operations a little fever has often developed in four, five or six days. Park, of Buffalo, N. Y., wrote an article on intestinal toxemia, in which he reviews this subject in a style, of course, only like he can do, giving the history of such cases—fever which comes on four or five days after a surgical operation, with a coated tongue, often resembling a malarial tongue, a condition which many writers have looked upon as being due to malaria,—frequently spoken of, also, as a bilious condition. He states that it is due to intestinal toxemia. He makes the statement that the condition is always relieved by the administration of a purgative, that the toxic material is thus carried off, and the fever promptly subsides. I merely make the suggestion that often the intestinal absorption view may be overlooked, knowing full well that the condition Dr. Mathews has reported was undoubtedly due, in his cases, as stated to a malaria.

Dr. T. P. Satterwhite:—When I was connected with one of the medical colleges of the city I noticed that students from the south, after they had been here for a few weeks, apparently hale and robust young men, would develop mala-

rial trouble. I assume, all college men have observed similar instances. Whether the condition was a latent malaria, and was brought out by the sedentary life as students, a change in their mode of living, etc., I am unable to say; but it is a fact that I was often able to predict that certain students would shortly be attacked with malaria, and quinine as a prophylactic measure always afforded relief.

Dr. J. M. Mathews:—I have frequently observed the condition among medical students that Dr. Satterwhite mentions. This climate seems to bring out latent malaria. In answer to Dr. Samuel, in regard to one special patient—two nights ago he developed fever with a temperature of $103\frac{1}{2}^{\circ}$ F. I gave him three grains of calomel, with some soda, followed by a dose of salts; that was day before yesterday, and to-day his temperature is $102\frac{1}{2}^{\circ}$ F. I do not believe the theory of Dr. Park will hold good in his case. My patients invariably receive a free purgation the night before the operation. This is accomplished usually by a dose of calomel followed by salts. Then their bowels are moved on the morning of the third day, sometimes the afternoon of the second day, after the operation, so there could hardly be any toxic effect from material retained in the alimentary tract. Therefore I cannot quite agree with Dr. Park that the condition is due to retention of anything in the bowels in all cases. I have no doubt what he says is true in some instances, but in the vast majority of my cases, at least, I am sure the trouble is due, as I have stated, to latent malaria.

BENZOSOL (*Guaiacol Benzoate*).—For some time past, Dr. Rugh has used *guaiacol benzoate* in cases of *tuberculosis ostitis with suppuration*. He has used creosote, guaiacol and guaiacol carbonate in similar cases, but believes the benzoyl guaiacol gives more decided results than the others. The good effects are due to the improved nutrition following the use of the drug, which is given in five-grain doses three times a day to a child 3 to 5 years old. —*Phila. Polyclinic.*

Selections.

TREATMENT OF ACUTE PNEUMONIA.*

By THOMAS J. MAYS, A.M., M.D.,

Professor of Diseases of the Chest in the Philadelphia Polyclinic; Visiting Physician to the Rush Hospital for Consumption in Philadelphia, etc.

During the last five years I have been engaged in making a collective investigation on the influence of cold applied to the chest in the treatment of acute pneumonia, and so far have succeeded in gathering two hundred and ninety-nine cases of this kind from the experience of my fellow practitioners and from my own. In studying and analyzing these cases I have naturally formed convictions and drawn conclusions concerning the utility of the treatment which was employed, and, although these may not be entirely correct, I express the hope that they may be sufficiently practical interest to justify me in bringing them before you this evening for a free and full discussion.

In the first place, let us seriously consider the pathological condition with which we have to deal when we are confronted by a case of acute pneumonia, for over and above the picture which this gives us of the mechanism of the affection, it will also lead us to adopt correct principles of treatment. Under the term acute pneumonia I include both croup and catarrhal varieties, though, as is well known, these two forms differ pathologically. In the croupous variety the pulmonary capillaries are enormously distended and engorged with blood. There is partial or complete stasis in these vessels, and the serum of the blood exudes through their walls and accumulates in and finally fills the air cells of a whole lobe, for which reason, as is well known, it is also called lobar pneumonia. The next step in the morbid process is a fatty decomposition and expectoration or absorption of this accumulated

material, and after this the lungs return to perfect health. In the catarrhal form of acute pneumonia the process is different. The blood-vessels are also distended and engorged with blood, but in place of a serous exudation into the air cells, these become partially or completely filled with catarrhal material derived chiefly from their epithelium. The whole process seems to be less active than that in the croupous variety, but the morbid products may undergo fatty degeneration, although there is danger of cheesy metamorphosis if the affection is too prolonged. Now, whatever may be the cause of the distention and engorgement of the pulmonary capillaries in both forms, and especially in the croupous variety, it is this *bloodfulness* of the lung which must be constantly borne in mind as one of the salient points in the treatment of this disease.

This leads to a consideration of the various tendencies toward death in pneumonia, and in doing this I shall first take up the inflammatory process in the lung itself. This being the most superficial manifestation of the disease, it is very often taken for granted that its area is an indication of the seriousness or insignificance of the affection. This holds true as a rule, but must not always be depended on, for occasionally cases are met with in which very few abnormal physical signs are discoverable, so far as infiltration is concerned, and yet the symptoms are of the gravest character and, therefore, out of all proportion to the size of the area which is implicated. On the other hand, cases are found in which several lobes are involved, while the symptoms are usually mild, and the patients make a rapid recovery. A frank and limited localization of the inflammatory process in the lung is not one of the most unwelcome features of pneumonia, yet efforts must always be made towards allaying and circumventing it.

One of the most serious of these tendencies is respiratory failure, which seems to be dependent on an impaired and de-

* Read by invitation before the Hartford (Conn.) Medical Society, April 19, 1897.—from *International Medical Magazine*, July, 1897.

fective nerve supply of the lungs in particular, and on a profound depression of the nervous system in general. It is a symptom which is frequently associated with latent, senile, and alcoholic pneumonia. As a rule, a low temperature is one of its characteristics. The respiration is short and frequent. There is a want of respiratory movement in the chest walls, and the abdominal breathing is exaggerated. Each breath is a labored one, and almost seems as though it were the last the patient could take. Such patients have assured me that they feel as if the only breathing surface left to them were centered in the upper and middle portion of the chest. Auscultation often reveals only a small amount of physical disintegration, and this generally at the base of the chest, although the respiratory murmur is markedly diminished in volume, if not over the whole chest, at least in spots. There is orthopnea, but cyanosis is not so marked as it is when the heart becomes much implicated. Another prominent symptom in this tendency is pain or distress in the epigastric region, which, in all probability, comes from diaphragm, and is evidence that this organ, in endeavoring to establish compensation for the loss of pulmonary movement, is being overworked.

Another tendency towards death comes through paralysis of the heart. This is partly due to a want of cardiac innervation, and partly to obstruction of the pulmonary circulation. It is very readily seen that stasis of the blood in the lungs, such as is found in acute pneumonia, will at once interfere with the free flow of blood through the right side of the heart and lead to distention of the right ventricle. It becomes a question, therefore, of the greatest importance, whether this tendency is best overcome by stimulating the heart's action, or by removing the obstruction in the lungs, to which I shall revert further on.

The fourth tendency towards death, of which I shall speak, is fever with its con-

sequences. According to Ott, Aronsohn and Sachs, Eulenberg, and Landois, fever is always evidence that the function of heat coördination is disordered and that it has lost its power of restraining excessive heat production, or heat dissipation, or both. The same observers have shown that this power of heat regulation resides in the six heat centres, two of which are in the cortex and four at the base of the brain, and that electric or mechanical irritation of these centres produces a temperature-rise lasting for hours. Fever is, therefore, essentially a neurosis, and one of its dangers lies in the well-known fact that it is a great tissue-waster. Besides this, fever also generates toxins in the body which, according to the experiments of Vincent, are capable of causing convulsions, stupor, and death in guinea-pigs, sparrows, and frogs.

Now, the therapeutic indications which may be drawn from the foregoing considerations are as follows: (1) *Reduction of the volume of blood in the lungs.* This relieves the distention of pulmonary capillaries, checks the serous exudation and catarrhal infiltration, abates the stasis in the pulmonary blood-vessels, restores the cardio-pulmonic circulation, and relieves the strain on the right side of the heart. (2) *Reduction of fever.* This allays the irritability of the nervous system, diminishes bodily waste, and lessens the danger of toxin formation in the blood. (3) *Support of the nervous system* in general, and the pulmonary nerve supply in particular. (4) *Support of the heart's function.* (5) *Nourishment of the patient.*

Now, what are the agents that will meet most of these indications in the best possible way? I believe we possess this agent in ice, or ice-cold water applied in rubber bags locally to the chest and directly over the seat of inflammation; and this for the following physiological reasons: Cold contracts blood-vessels, reduces fever, stimulates the whole nervous system, and supports the action of the heart. Practically, as I have witnessed

time and again, the ice will check extension of the inflammatory process, promote resolution, disperse the products of exudation, reduce the fever, diminish the cardiac and respiratory frequency, tone up the heart, strengthen the pulse, alleviate difficult breathing, abate pain in the chest, and give general comfort to the patient.

The number of ice-bags which are to be applied in any case depends on the degree of fever which is present, and on the size of the area which is inflamed. If the fever is not very high and the area is small, one or two will answer. If the fever is high and the involved area large, almost any number may be applied, always bearing in mind that the head should have one or two bags applied constantly. On one of the worst patients I had I applied nine, which covered the whole chest, sides and front, and two to the head. The length of time during which they are applied also depends somewhat on the range of fever. If the temperature falls near the normal then I think it is wise to remove some of the ice-bags, but think it is best not to remove them all, even though the temperature is down, unless the crisis is at hand, because if all the bags are removed before the proper time, the temperature will rise again, and is brought down with greater difficulty the second than the first time.

Supposing that in a very grave case cold had been applied after the manner here prescribed, and had failed to modify the difficult breathing, the distress in the chest, the cyanosis, etc., what could be done to reinforce the influence of cold? There is no question that the old and almost forgotten art of venesection will give more assistance than anything else in such an emergency, and should be resorted to without hesitation. Its effects under these conditions are the same as those which are sought to be brought about by cold—viz., relief to the over-distended cardio-pulmonary circulation.

What is to be said of the drug treatment

in pneumonia? In the face of the present trend to regard pneumonia as a self-limited disease, and that hence all the practitioner has to do is to sit idly by and admire the storm while it is passing over, it is somewhat in a spirit of diffidence that one suggests the feasibility of the use of drugs or of anything else in this disease. In spite of this opinion, however, I have a feeling, which is born of experience, that drugs are invaluable here, and that one of the best of these is *strychnine*. This drug, with its stimulating action on the nervous system in general and on the respiratory nerve supply in particular, is especially well adapted for use in this disease, as it is in fact in all diseases of the pulmonary organs. Over and above this it is the equal of *digitalis* in enhancing the function of the heart, and in this manner tends to overcome some of the most serious tendencies to death in this disease. To get the best action of *strychnine* it must be given for tangible effects, *i. e.*, in doses large enough to approach the line of its toxic action, and for this reason it is useless when given in small doses. In the adult it is best to begin with a dose of $\frac{3}{16}$ of a grain four times a day, and reinforce this with a hypodermic dose of $\frac{1}{16}$ of a grain morning and evening. This amount can be increased, and very liberally, too, if the case is one of alcoholic or latent pneumonia. Another valuable drug is *digitalis*. With the very large doses of this agent which are prescribed by some authorities I have had no experience, but always give it in dessertspoonful doses of the infusion, or from ten to fifteen drops of the tincture, every four hours, with a view of obtaining its tonic influence on the heart-muscle. *Capsicum* is also of great utility. It is one of our most effective diffusible stimulants, and is of especial advantage in that stage of pneumonia which is characterized by a low muttering delirium, comatose tendency, picking at the bedclothes, etc., and which is very frequently associated with a dry and sometimes black crusty tongue.

It is to be given in doses from ten drops to a teaspoonful of the tincture in water every three or four hours. I have given a teaspoonful of tincture of capsicum every hour with the best results in cases of low alcoholic pneumocia. *Morphine* given hypodermically at night in quarter-grain doses will secure sleep and add to the comfort of the patient. Sleep is very important in this disease, and a ten-grain suppository of *asafetida* at bedtime will materially aid the hypnotic effects of morphine. *Oxygen* given by inhalation is of immense service in cases of great dyspnea and cyanosis. Of course, it is only of temporary use, but during that time it assists greatly in bridging over the most critical period of the disease, and so saves the patient's life. If the dyspnea is marked it must be given more or less constantly. The *salicylate of cinchonidia* and the *salicylate of soda* are especially useful in the treatment of pleuropneumonia, or in grip-pneumonia, or when the pneumonia is complicated with painful joints, or if the disease occurs in a patient with a rheumatic history. Whenever these manifestations occur it will always be of advantage not to overlook these most important agents.

The question of food also concerns us greatly in the management of this disease. The food should be of the most nourishing character, concentrated in bulk, and of easy digestion. Such food we find in freshly expressed beef juice, of which two ounces, properly seasoned, should be given alternately, every two hours, with a glass of milk containing a tablespoonful of whiskey or brandy. If the stomach is rebellious the beef juice and milk and whiskey may be given by the rectum.

Now, a few words more in regard to the ice-cold treatment of pneumonia. If it were not for the belief which I entertain, that it offers the fairest hope for solving the problem how to treat pneumonia most successfully, I would not be before you with this topic to-night. I do not offer

this measure as a panacea, but I have the conviction that the treatment of pneumonia as ordinarily carried out, or exclusively of cold applied in some form, is worse than useless. I must confess that this is strong language to use, but when we look about and see that the natural tendency to recovery in this disease holds good in about eighty-five out of every hundred cases, and then find that our hospital statistics, with a few exceptions, give us a death-rate ranging from fifteen to thirty per cent., I think I am perhaps justified in employing it. Thus, in the 299 cases so far gathered there were ten deaths, giving a total death-rate of 3.35 per cent. Over and above the superior results which are given by the ice treatment in these cases is the fact that they were not secured by a single individual only, but by as many as fifty independent observers, among whom are a number who have treated a score of cases without a single death. This of itself speaks volumes in favor of the treatment, for it shows that the personal equation of the practitioners cannot enter very largely into the question of its success.

Now, what of the future of the treatment of acute pneumonia? Is there reason for believing that the death-rate of this disease may be diminished still further on the lines here indicated? I believe that this is possible. Of several things I am certain. One of these is that we have the course of pneumonia under control. The other is that the idea that pneumonia is a self-limited disease and pursues the even tenor of its way in spite of all medication is a delusion and a myth of the most pernicious type. It is a sprag in the wheel of therapeutic advancement. It is on a par with and belongs to the dogmatism of twenty-five years ago which asserted that the whole treatment of acute rheumatism could be summed up in "three weeks and plenty of woolen blankets." Salicine and the salicylates have undeceived us and taught us better. Thanks to them, this disease consumes a less number of hours now than it did days then, and we approach it with the utmost confidence, but not with any greater degree of assurance than, I believe, we may encounter acute pneumonia at the present day.

THE TREATMENT OF TAPEWORM, WITH REPORT OF CASES.*

By E. C. CHAMBERLIN, of New York.

Any one who is privileged to examine and prescribe for a large number of people daily will not infrequently meet with a case of tapeworm. This distressing affection seems to be almost entirely confined to womankind. In fact, I have not seen a single case of *tænia saginata* or *solium* in a man, and my histories are all furnished by women. This is not strange, when the report of the military surgeons of the French army for ten years showed only one case in every thirty-six thousand men. I will not attempt to discuss the natural history of *tænia* or describe the familiar ribbon-like shape of the worm.

The diagnosis is often made by the patient before she presents herself; and again cases exist which have been treated for dyspepsia, anæmia, and many other disorders for a long time.

The symptoms are not well defined, though intestinal disorders, without pain, salivation, vertigo, loss of flesh with great increase of appetite, are the most common ones. The imagination in women may vary the symptoms in many ways after once the presence of the worm is known.

The treatment pursued in the following cases I have found to give much satisfaction. It contains nothing new except in the combination.

CASE I.—Miss A—had complained of pains in the abdomen with attacks of nausea and vomiting for the past two months. Emaciation and loss of strength had been rapid. She had been taking iron for her blood. After a brisk cathartic several links of *tænia* were found in the stools. Strict orders as to diet were then given. For one and a half days she was allowed only two cups of tea with toast. At the end of her fast she received a half-ounce of magnesium sulphate with two

glasses of water; early the next day half an ounce of castor oil; about two hours later, after numerous stools, she took the first dose of the following mixture, followed by another an hour later, until all had been taken:

R Spir. chloroformi..... 3 ij.
Ol. terebinthinæ,
Oleoresinæ aspidii.....ââ 3 i.
Glycerini.....q. s. ad 3 i.
M. S. 3 ij. q. h.

The stools after the administration of the castor oil contained several links of the worm, but not until the above mixture had blinded him did he let go of the lining of the intestine with his suckers, when the head and twelve feet of the worm were captured. This was no doubt a *tænia solium*.

CASE II.—Mrs. B—had had dull pains in the abdomen, constipation, and diarrhœa at intervals for the past six months, with increased appetite. She imagined all sorts of things after the discovery of her tapeworm, which she made herself. After the same treatment as outlined in Case I. she passed a worm exactly twenty-one feet in length. There had been no return of her trouble for over a year.

CASE III.—Baby, two years old. The mother said that when the child was one year old it passed several feet of a worm. When I saw the child at its home in March, 1896, I gave it castor oil. Later it passed ten feet of worm connected. In the morning I gave:

R Ol. terebinthinæ,
Spir. Chloroformi,
Aspidii.....ââ 3 ss.
Glycerini..... 3 ss.
M. S. 3 i. q. h.

In the evening the child passed eleven feet more, as was ascertained by careful measurement. If the child had not been a strong one the above dose might be considered large. Again, I anticipated that much would be vomited up, which was the case. There has been no return of trouble as yet.

CASE IV.—Miss G—, December, 1896. For the past three months she had had nausea and vomiting at times. A physician had washed out her stomach, which

* From *Medical Record*, Aug. 28, 1897.

gave temporary relief. She had vertigo, much nervousness, lumbar pains, frequent urination, and many other reflex symptoms. She was very fond of rare meat, and had for some time past eaten a good deal of it. When first seen she said she had worms and that they were always dropping from the rectum. These worms proved to be the joints of the tænia. I gave fifteen minims of oleoresin aspidium every two hours, with the result that a large number of segments were passed. Two weeks later after another dose of aspidium she passed one worm exactly 5.3 metres (or $16\frac{1}{4}$ feet). Three months later she applied again for treatment. This time I used the mixture as prescribed in Case I., with the satisfaction of recovering the entire worm. By careful measurement it was found to be 8.2 metres ($26\frac{1}{2}$ feet) in length and almost intact. There has been no return of trouble for past seven months.

In the preparation of the patient there are certain things, as described in Case I., which must not be overlooked, for on these depends the success of the medicine. In order to find the head and smaller portions, a good deal of care must be exercised in the manner in which the stools are received and examined. A good routine practice is to have ready several pieces of cheesecloth, one of which is to be stretched over the receptacle. As soon as one evacuation has taken place, put another cloth in its place, spreading these cloths with contents on sheets of newspapers for examination. It is only thus with great care that all parts may be washed and saved, and the head may then often be discovered.

THE TREATMENT OF ECZEMA.—Thompson, in discussing this subject, says: Take care that all internal and external causes for tracheal irritation are removed, if possible, and the urine examined carefully for albuminuria, phosphaturia, glycosuria, or polyuria, occurring in the course of such diathetic conditions as lithemia,

gout, and diabetes. Have patient as much as possible in the open air, eat regularly of easily digested foods, the proteid constituents of which should be present in comparatively small amounts; and fresh vegetables are useful, such as the various salads, cresses, and similar substances. With eczema in the newborn great care should be paid to the regularity of nursing and the clothes, particularly the diapers; and, also, as to healthy surroundings.

Purgatives have been much abused by the physicians of earlier times in the treatment of eczema, but their moderate use, should constipation be present, is an absolute necessity. At first calomel may be given in small doses, or some of the neutral salines, or castor oil, or the preparations of senna. As diuretics it is well to employ some of the alkaline mineral waters, and to use, to a great extent, a milk diet. Belladonna is sometimes useful in cases of eczema in which there is a profuse sero-fibrinous exudate. Under these circumstances two to ten drops of tincture of belladonna may be taken quite frequently, or instead, small doses of atropine may be given. If there is contra-indication to these drugs we may employ such remedies as tannin, agaricin and phosphate of sodium. In persons who have a distinctly malarial history, quinine is to be employed, both for its specific and general tonic effect; and antipyrin, colchicum and digitalis may be used, particularly if there is a gouty tendency or feebleness of the circulation. Strychnine is useful in marked circulatory feebleness. In the eczema of the young, which is often dependent upon anæmia in lymphatic persons, the administration of iron is often exceedingly advisable; in other cases it is better to give cod-liver oil or the iodide of iron; or in some cases, if there is a tendency to arterio-sclerosis, we may administer iodide of potassium with good results. If there is hereditary syphilis as an underlying cause of infantile eczema, the iodide of potassium in moderate doses may be used.—*Pacific Medical Journal*.

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Subscription Price, - - \$1.00 per annum.

PUBLICATION OFFICE, 73 TO 79 FULTON ST., NEW YORK.

Address all communications to

THE AMERICAN THERAPIST,

P. O. Box 1170.

New York City.

Vol. VI. NOVEMBER 15th, 1897. No. 5.

Editorial.

FIGHTING TUBERCULOSIS WITH ITS OWN PRODUCT.

We can all remember the excitement which followed upon Dr. Koch's preliminary announcement of a cure for tuberculosis, the sharp criticisms of the secrecy of methods employed, the clever guesses which most of us made as to the source of the serum and the reluctant publication of details which, in the main, confirmed these guesses. On the whole, no important announcement of means of relief or cure has ever been made to the medical profession with greater *a priori* improbability of realization nor with more general and more sanguine acceptance. So high a degree of confidence had Prof. Koch's previous scientific work engendered, that those of us who had the courage to be conservative, were scouted at by the enthusiastic as therapeutic nihilists or as old fogies.

Time has elapsed sufficient to allow a quite accurate estimate of the value of Koch's discovery, in its immediate practical bearing upon medical art. No one can deny that, beyond this valuation, there is a reasonable expectancy of great good to be developed later, on the lines laid down by Koch, and especially with regard to other diseases than tuberculosis. In fact, the value of diphtheria antitoxin, which is, in a general sense, to be classed

with Koch's products from the activity of tubercle bacilli, is almost beyond dispute. Therapeutically, it may be said that the tuberculins from time to time offered, have not justified the claims of their originators, although there is some support for the argument that benefit has occurred in incipient cases. However, it must be remembered that the average patient with incipient tuberculosis, either so-called from clinical observation or well established, has a fair chance of recovery from purely hygienic measures, if he can fight for his life without handicap. Diagnostically, the tuberculin test has been of untold value in veterinary practice, by enabling the early detection of tuberculous sources of milk and beef. The almost unanimous testimony of veterinarians and others who have had experience with this use of tuberculin, is that it is practically infallible. Rather strangely, there is a considerable prejudice against the use of tuberculin as a diagnostic measure for human beings. This is not mere prejudice, for it is found even among those who had the most glowing hopes of the benefits of tuberculin, though it may, in some degree, represent a reaction, due to the disappointment in regard to therapeutic results. Many believe that the use of tuberculin may so depress a patient who is in a weak but not positively tubercular state, that they prefer to leave the decision to the further progress of the case, meanwhile giving the patient the benefit of the doubt by taking all possible precautions against the growth of a tubercular process.

It seemed for a few months that MARAGLIANO's modifications of tuberculin might be efficacious, but the present verdict is rather against their utility. MARAGLIANO, in turn, gives an adverse criticism of Koch's new tuberculin, disputing both the claim that the new product contains active substances not obtainable by the former method of solution with glycerine, and that it is innocuous. MARAGLIANO states that the apparent immunity from bad side-effects is merely due to diminished

dosage. However, MARAGLIANO makes an assertion which may be the germ of an important truth, that it is not necessary to obtain a marked reaction with tuberculin, but that we should use a dose below that required to produce conspicuous phenomena. This is certainly in line with general experience as to medicinal agents, that the early doses though producing picturesque effects are dangerously large and therapeutically inferior to those which have no obvious immediate result.

A recent experimenter has found that some serums or bacillary extracts are not free from living bacteria, and that they are thus a positive source of danger, while others are inert. It is to be deplored that the history of such products is blotted at frequent intervals with the manifestations of a mercenary and commercial spirit, which has extended even to members of the medical profession. Meantime we must admit that the chapter is unfinished, that much is to be hoped for from the labors of numerous scientific investigators at home and abroad, and that what has already been accomplished is of a value which seems small only in the light of the hopes of a revolution in medical practice.

It seems to us, that one item must be considered in weighing the probable results of combatting tuberculosis with artificial products from its bacilli. The corresponding natural products have no action to prevent a second attack, or to limit the existing attack of tubercular disease; in fact, they decidedly favor the development of further tubercular trouble. Thus, our hopes can rest on no analogy to vaccination or inoculation against a semelincident disease.

TO PREVENT IODISM.—The *Medical Age* says: It is claimed that the following may be given indefinitely without causing iodism:

R Potassium iodide, 12 drachms.
 Ammonium and iron citrate, 2 drachms.
 Tincture nux vomica, 2 drachms.
 Water, 12 drachms.
 Compound tincture cinchona, 16 drachms.
 Teaspoonful 3 times daily in water, after meals.

THERAPEUTICS.—The following remarks form a chapter, under the head of "Therapeutics," in Dr. Stephen Mackenzie's Presidential Address before the Section of Medicine of the British Medical Association at Montreal, Sept. 1, 1897:

Until the exact nature of disease is fully understood, a truly scientific treatment is manifestly impossible. I need not discuss how entirely in the past, but also at the present day, our knowledge of treatment has been mainly empirical. It could not be otherwise. It is true that up to the present time scientific therapeutics has only influenced our treatment to a small extent. But looking back, as we have been doing, to the course of progress in medicine, we have seen that it has throughout followed the line of patient and exact research. The action of drugs is now studied with the same care and precision that have been employed in physiology and pathology, and we are yearly adding to the stock of exact knowledge of the action of remedies. The scientific application of this knowledge will come with a more complete understanding of pathology, and greater precision in diagnosis. But therapeutics is not contemporaneous with drug treatment. It includes all the circumstances of the management of the sick, the surroundings, the feeling, and general care of the patient. In all of these respects enormous strides have been made, which greatly influence the chances of recovery of the patient of to-day. Moreover, therapeutics includes prophylaxis, the prevention of disease. It is in preventive medicine that the greatest triumphs of medicine have been and will continue to be gained. The work of Jenner, Pasteur, Lister, Koch, and other pioneers of preventive medicine, has saved more lives, probably, than remedial art can claim. Fresh fields of the therapeutical triumphs are opening to us in the employment of antitoxin serums and extracts of animal secretions, so that, if therapeutics has lagged behind other branches of medical science, it has been due to unavoidable causes, and we may look forward hopefully and confidently to its future.

Current Literature.

KOCH'S NEW TUBERCULIN.—Prof. Maragliano publishes (*Gaz. d. Osped. e Clin.—Pac. Med. Journal*) the results of his own experiments with Koch's new tuberculin on men and guinea-pigs. According to Koch, the new product differs from the old in producing no pernicious effects, and in containing bacillary substances not soluble in glycerine. As regards the first, Maragliano finds that the difference is chiefly one of dosage, and that if the old tuberculin is given in correspondingly small doses, no more bad effects follow its use than with the new product. Moreover, the therapeutic effects are the same. As regards the second, experiments showed that this supposed insolubility in glycerine did not exist. In the author's opinion it is not necessary to induce reaction in the tuberculin treatment, but to stop just short of that; and it is just because the new tuberculin does this (chiefly because of its smaller dosage) that it may be more beneficial.

CONSUMPTION AND ITS TREATMENT.—Dr. A. T. Cuzner quotes from a thirty years' experience, in *Virginia Medical Semi-Monthly*, and concludes that the best aids are appropriate climate, as much sunlight as possible, fresh air and exercise. He summarizes:

As to the administration of drugs, I leave their choice and mode of application to the common sense of the qualified physician, who will have to be governed by the condition of his patient from time to time.

There are no *specifics* in this disease.

The only remedy I will venture to advise is *nuclein*. It is a great promoter of reconstruction in the tissues. It also has the effect of increasing the number of leucocytes in the blood.

With regard to diet, it should largely consist of animal tissue. Eggs and milk should predominate over other animal foods. I prefer to give the eggs raw

when tolerated. Bone marrow is of greater value than cod liver oil. Fresh fruits should be partaken of freely.

Heavy meals should be avoided, and the patient should partake of small quantities of food between meals.

The drinking of hot water freely will largely help to eliminate the toxin, the result of the disease. The bath should be partaken of as often as possible for the same reason.

RELIEF FOR ASTHMATIC PAROXYSMS.—For the relief of the *asthmatic paroxysm*, Dr. S. Solis-Cohen finds nothing better than a combination of

Morphine sulphate . . .	$\frac{1}{8}$ to $\frac{1}{4}$ grain
Strychnine sulphate . . .	$\frac{1}{60}$ to $\frac{1}{40}$ grain
Hyoscine hydrobromate . . .	$\frac{1}{200}$ grain

given hypodermatically at bed time. In some cases its repetition is unnecessary. In other cases after two or three injections complete relief from the attack has been observed. Of course there are obstinate cases of asthma in which this gives only temporary relief, and in which considerable caution must be exercised as to its repetition.—*Phila. Polyclinic*.

THE USE OF SCOPOLAMINE AMONG THE INSANE.—Dr. S. Tomasini has employed the hydrobromate and sulphate with equal results. They are injected subcutaneously in dose of from one two-hundred and fiftieth to one-sixth-fourth of a grain. Sleep was readily induced, especially in women, in from two to three minutes. The injections are not painful, nor do they give rise to local reaction nor to general excitation. The pulse is regular, but more frequent. There is marked dilatation of the pupils. The sleep is quiet, resembling the physiological. There are no disturbances nor unpleasant symptoms, as nausea. In maniacal cases and periodical insanity it is a remarkable sedative. Habituation is easily obtained, and the dose must be rapidly increased.—*Riforma Medica*, 1897, No. 12, p. 135.—*Amer. Journ. Med. Sciences*.

SCOPOLAMINE IN MENINGEAL INSANITY.—Tomassini states that 1-200 of a grain of scopolamine is beneficial as a cerebral depressant in cases of meningeal insanity. If given in injections it does not produce much pain or local reaction; sleep comes on rapidly, the patient being quiet in a very few minutes. The pulse is regular, being little diminished in force or frequency; respiration is not altered. Sleep usually lasts from four to five hours, and may be prolonged to eight hours without any interruption. The cases in which scopolamine is particularly indicated are those in which a powerful sedative is required, as, for example, acute maniacal epilepsy.—*Univ. Med. Journal.*

TREATMENT OF HIVES.—The vast majority of cases of *acute urticaria* or *hives* are due to intestinal ptomaine poisoning. Knowing the cause, the treatment is self-evident: free catharsis followed by the use of intestinal antiseptics. Such cases are given, in the skin department, a calomel or saline purge, and later salol in 7-grain doses to be taken after meals. The local treatment is just as simple, consisting in the use of anti-pruritic washes, such as carbolic acid or menthol, to 10 grains to the ounce.—*Phila. Polyclinic.*

ANTIPYRINE FOR GONORRHOEA.—Dr. F. G. Mohlau, of Buffalo, writes in the *New York Medical Journal*: "The best of all remedial injections I have used in (gonorrhœal) urethritis, chronic or acute, is the following:

R Antipyrine..... 10.0 (3 2½)
Tinct. ferri chlor..... 10.0 (3 2½)
Trit. bene et adde
Aquæ dest. q. s. ad 150. to 250. (3 5-8)

I use a six-ounce syringe (Ultzmann) with a Mercier (coudé) catheter, which I insert as far as the prostratic urethra; inject after having cleaned the urethra with six to twelve ounces of boiled water. I next inject three or four syringefuls, so that about six ounces enter the bladder, in order to prevent cystitis. It all passes out alongside of the catheter."

NEURASTHENIA AN ABDOMINAL NEUROSIS.—From Dr. G. Betton Massey's presentation of this subject, in the *Va. Med. Semi-Monthly*, we quote the following conclusion:

If neurasthenia is a bio-chemical auto-intoxication, due to deficient automatic activity of the neuro-glandular mechanisms of the abdomen, our therapeutic efforts should be directed primarily to the abdomen itself, and should consist of appropriate combinations of mechanical, electrical, and medicinal agents of a character that will stimulate both the nervous and glandular organs to a proper performance of their work. Mere antiseptics of the digestive tract is useless, while the prevailing habit of many practitioners of dosing these patients with various pre-digested foods, malt extracts, and mere cerebral stimulants, cannot do otherwise than add further impurities to the circulating fluid, already overcharged with toxic materials.

NUTROSE, A NEW NUTRIENT.—Nutrose is prepared from the casein of milk combined with sodium, and so converted into a soluble condition. It is a highly concentrated albumenoid food, and is represented to be free from the disadvantages of other "meat substitutes."

Its advantages over meat derivatives are thus tersely summarized:

1. Its high percentage (90 per cent.) of chemically pure albumen.
2. Its almost complete lack of odor and taste.
3. Its complete solubility in water, milk and other menstrea.
4. Its miscibility with ordinary food stuffs.
5. Its neutralizing power as against gastric hyper-acidity.
6. Its easy and almost complete absorbability by the digestive organs.
7. Its lack of irritant effect upon the intestinal tract.
8. Its practically sterile and undecomposable condition.
9. Its inexpensiveness.

As to the nutrient value of nutrose, the exact assimilation experiments of Salkow-

ski, Marcuse, Stüve and Bornstein conclusively show that the absorption and utilization of this preparation is very complete and that the albumen of ordinary food may, when necessary, be wholly or partially replaced therewith, without producing repugnance, gastro-intestinal irritation or putrefactive diarrhoea.

THE DISINFECTION OF THE HANDS.—This subject, which is of such great importance in clinical surgery, has been carefully studied by Wier (*Amer. Jour. Med. Sciences*, from *Medical Record*, April 3, 1897), whose studies lead him to the following conclusions:

1. That the solutions of corrosive sublimate are unreliable.
2. That such disinfection is far best applied, and in the order named, by the use of nascent chlorine, alcohol, or potassium permanganate.
3. That chlorine is satisfactorily evolved by the conjoined use of moistened chemical chlorinated lime and crystallized sodium carbonate.
4. That of these three procedures the chlorine treatment is least hurtful to the hands; alcohol the most trying.

The author has devised a simple, easy, and inexpensive yet efficient method of obtaining the sterilization by nascent chlorine.

After the usual scrubbing with soap and water, and the use of green soap, and cleaning the periungual spaces, one or more large crystals of carbonate of sodium (washing soda) are taken in one hand and covered with about a tablespoonful of bleaching powder (chlorinated lime), and enough water is added to make a thin paste, which at first feels warm, and from which fresh chlorine gas comes. This is rubbed for two or three minutes over the hands, nails, and forearms until a creamy paste is formed or until sodic crystals impart a cool sensation or until the rough grains of bleaching-powder have mostly disappeared, when the hands are washed in sterile water.

MODERN MANAGEMENT OF DIPHTHERIA AND CROUP CASES.—This is the title of a comprehensive lecture of Dr. Augustus Caillé, Professor of Pediatrics at the New York Post-Graduate School of Medicine. In speaking of fever, he says, that the high temperature can be reduced by cold and luke-warm sponge and tub baths; to give antipyretic drugs regularly every two or three hours is very bad practice, but one or two doses in 24 hours, particularly at night, are serviceable. Among the drugs mentioned in this connection, is lactophenin, which Dr. Caillé recommends in 3 to 10 grain doses with $\frac{1}{2}$ grain caffeine. Quinine, he says, should never be given as an antipyretic in any but malarial disease.—*The Post Graduate*, Oct. 1897.

CHINOSOL THE PRESENT FASHION IN ANTISEPTICS.—Dunn (*Med. Press and Circular*, May 5, 1887) points out the fact that although the antiseptics used at present produce gratifying and satisfactory results, they all have their disadvantages and none of them are universally applicable. The fashion in antiseptics changes and should change until the surgeon meets with the ideal antiseptic. This the author describes as one which could be used in its various forms for every purpose, effectually, perfectly, and without causing in any way deleterious effects either to the surgeon or to the patient.

The results obtained by Röhrer, Kossmann, Bimmermann, Ostermann and others in extended trials with the antiseptic chinisol led the author to test its properties, and the result has been very gratifying. The claims for the drug are, that it is: (1) non-caustic; (2) non-toxic; (3) very diffusible; (4) a powerful deodorizer; (5) non-hygroscopic; (6) that it does not coagulate albumin. The author's experience with it justifies these claims. Its great advantage, he thinks, is that it can be used for everything as an antiseptic. It meets the difficulty of strong solutions of carbolic acid, because it does not injure

the skin of the hands; in a double sense it is superior to the per-chloride, because (1) it does not harm the instruments, and (2) does not coagulate albumin. It is a perfect antiseptic powder and combines with boric acid. It is a powerful antiseptic, destroying virulent germs in 1 to 10,000 solutions.—*Amer. Jour. Med. Sciences.*

EUQUININE.—A new substitute for quinine has been introduced, under the name "euquinine" (*i. e.* superior quinine). Chemically described, it is quinine in which a hydrogen atom has been substituted by a molecule of ethyl carbonate. The product resembles quinine sulphate in appearance, but is almost wholly free of bitter taste; it gives the regular reactions for quinine. Therapeutically it is said to not only possess all the virtues of quinine, but its range of application is much wider, and it has the advantage of inducing no secondary effects. Clinical reports so far speak of its successful application in fevers, neuralgia, whooping cough, and as a tonic in anemia and chlorosis.

ANESIN, described as an aqueous solution of acetone-chloroform, has been brought forward by Vamossy (*Deutsche medic. Wochensch.*) as a substitute for cocaine; he says it is a good local anesthetic, free from toxic properties.

ORTHOFORM is another new anesthetic, introduced by Einhorn and Heinz (*Munich. medic. Wochensch.*). It occurs as a white crystalline powder, without taste or odor, and only slowly soluble in water. Its advantage is in the slow solubility, which prolongs the effect.

Semaine Médical (*Journal Amer. Med. Assn.*) says additionally: Orthoform does not substitute cocaine, but has a field peculiar to itself. It is absolutely non-toxic; applied as a powder it produces a slow progressive anesthesia wherever there is solution of continuity, lasting hours and days. It has no effect upon

sound skin or indurations, but in all burns, wounds, fissures, ulcerations, excoriations, etc., it abolishes sensibility, diminishes the secretions and exerts a pronounced antiseptic effect. Orthoform is a methyl ether compound of amidoxybenzoic acid, discovered by Drs. A. Einhorn and R. Heinz, of Munich. In combination with hydrochloric acid it forms a soluble salt which can be administered internally, $\frac{1}{2}$ to 1 gram several times a day, to remove the pain in cancer and round ulcer of the stomach. Intra-urethral injections in chronic gonorrhea have also proved effectual.

PAINLESS APPLICATION OF NITRATE OF SILVER.—To the mucous or granulating surface apply first a solution of azotate of cocaine, which has an anesthetic effect equal to that of the hydrochlorate, and unlike the latter salt, does not form a precipitate with the silver solution. Following this a solution of nitrate of silver may be applied without giving rise to pain.—*Medical News.*

(Will our contemporary please give particulars concerning *azotate* of cocaine; this salt is not known to us, and certainly is not commercially obtainable.—ED.)

COCAINE AS A SAFEGUARD IN ANESTHESIA BY CHLOROFORM.—A London chloroformist claims (*Journal Amer. Med. Assn.*) that the trigeminus is responsible for the dangers to the heart and respiration by the reflex irritability of its terminations at the mucous membrane of the nose. His method is to anesthetize the nasal mucous membrane, which is done by requiring the patient to blow his nose and then, leaning forward or sitting, but never lying, to sniff a centigram of a powder consisting of 10 per cent. of cocaine hydrochlorate and some inert substance. Repeat in about three minutes, and begin use of chloroform. In fifty cases in which cocaine was employed in this manner the conclusions were: The commencement of anesthesia is less disagreeable to the patient, who never makes defensive movements; oftentimes the excitement stage is wanting, and is always slight,

except in cases of alcoholics; during anesthesia the patient rarely vomits, and if vomiting does occur it is accompanied with slight retching; upon awakening the patient experiences no disagreeable sensation and is not troubled by the after-smell of chloroform or ether.

A FEW MORE WORDS ON STROPHANTHUS.—Balfour (*Edinburgh Med. Journ.—Boston M. and S. Journal*) contrasts the action of digitalis and strophanthus decidedly to the detriment of the latter. He says that "all the benefits we obtain from the use of digitalis are inseparably connected with its tonic action; they flow from the power that digitalis has of increasing muscular elasticity, and the improved metabolism of all the tissues, but especially of the myocardium, that follows this. Digitalis is no opium to the heart; it does not relieve by narcotizing but it softens cardiac irritability by strengthening the cardiac muscles and it assuages cardiac pain by improving cardiac metabolism, failure of which has been the cause of pain. These benefits are readily obtained by very moderate doses of the drug, and though great benefit may at times be more rapidly obtained by the judicious administration of larger doses, yet the long continuance of even small doses is often followed by the very best results, while the abuse of the drug, so frequently accompanied by distressing, if not alarming symptoms, proceeds from an entire misconception of the true action of digitalis."

On the other hand, "the action of strophanthus, like all its congeners of the apocynaceæ, is that of a cardiac poison and not a cardiac tonic. In large doses—though from the form of the drug these doses may be really small—it forces the heart into a fatal systole. In small doses it stimulates the heart to increased action, and in calling on its reserve of energy without improving its metabolism it causes death in diastole from exhaustion, and the more feeble the heart is the greater the risk attending this peculiar action.

Strophanthus may occasionally be of use in cases of ruptured compensation, but any assistance which it gives is at the expense of the cardiac reserve, and the patient is only saved from serious disaster by the benefit he has derived from rest, warmth and nutritious food, that is, by improvement of his environment generally. Strophanthus is thus at all times an uncertain and dangerous drug to employ, and one entirely unworthy of being called a remedy.

"It is quite otherwise with digitalis. This drug does not act by calling on the reserve of cardiac energy; but by improving the nutrition of the organism generally and especially of the myocardium, it adds to this reserve, and aids any improvement in the environment, not only to tide over a temporary disability, but also to restore the myocardium to such a condition of comparative health as will enable it to withstand all the deteriorating influences to which it may be exposed."

THREAD WORMS.—Some of our exchanges (*Journal A. M. A.*) recommend the formula of the *Journal de Médecine de Paris*: Three-fourths of a grain of santolin and one and a half grains of calomel by the mouth every day before breakfast for three days; also every evening for the same number of days insert within the sphincter a modicum of mercurial ointment one part and glycerite of starch, two parts.

SILVER NITRATE AND ERGOTINE IN THE TREATMENT OF PULMONARY TUBERCULOSIS.—Before the Section in Medicine of the Twelfth International Medical Congress, Dr. Crocq, of Brussels, (*Progrès médical*, September 4th) maintained that tuberculous disease tended to end in recovery rather than in death, and that a fatal termination was due to an inflammation which led to a propagation of the tubercles. If this inflammation could be prevented or cured, there would be more cases of recovery. According to the

author, we have no remedy against the bacillus; creosote does not kill it, and there are some inconveniences about its employment, especially as regards the management of the stomach. He has employed with much success, even in cases that were grave or complicated with diabetes, ergotine and silver nitrate. The latter, he says, acts very beneficially on the stomach.—*New York Med. Journ.*

PAPAIN.—Dr. G. A. Hewitt writes in the *Medical Bulletin*, that the papaw tree is now found in the Pinellas Peninsula, Fla., and that soil and climate are favorable for its perfect development. He continues with a general description of the juice of the fruit, interestingly told although trite, and we quote same in full:

It was long ago discovered that the juice of the fruit and sap of the tree possessed the property of speedily rendering tender the toughest meat. In Southern countries it is customary to hang meat and fowls upon its branches in order to soften them for the table. This virtue depends upon the presence of a peculiar ferment, discovered by Wurtz, and called "papain," or "papayotin." This substance is of great value, as it converts albumins into peptones, starch into maltose, and emulsifies fats. It is active in both acid and alkaline media, is more energetic than either pepsin or pancreatin, and dissolves false membranes without any injury to living tissues. This combination of properties causes papain to be an extremely valuable remedy in digestive disorders whether originating in the stomach or bowel. According to Herschell, moreover, it stimulates the secretion of gastric juice.

The dose of papain is 1 to 5 grains. It is best given in powder, inclosed in capsules or made into tablets, as its watery solution soon loses its power.

Papain has been used both internally and externally in medicine. It allays the irritability of the stomach and nausea which accompany many cases of indiges-

tion, and at the same time corrects the disorder from which the symptoms arise. It also relieves the pain of gastralgia. In disturbances of the gastric secretion and gastric and gastro-intestinal catarrh papain is a serviceable remedy. In ulcer and cancer of the stomach it has some palliative effect. Locally, papain has been employed to dissolve the false membranes of diphtheria; as a spray it has been recommended in ozena and tuberculous ulcers of the larynx.

From its culinary and digestive properties, together with its rapidity of growth and productiveness, it would seem that the planting of the papaw-tree should be encouraged on the Pinellas Peninsula. Its virtues are undoubted. The chief reason why papain has not come into more general use is its comparative expense. It is presumable that this objection would be overcome if an ample supply of the fruit were assured.

PAMPHLETS RECEIVED.

CHARLES GILBERT DAVIS, M.D. (Chicago, Ill.): Vaginal Hysterectomy; a Review of Sixty-six Consecutive Cases.

CHARLES R. ROBINS, M.D. (Richmond, Va.): Stone in the Kidney.

DELANO AMES, M.D., and A. A. HUNTLEY, M.D. (Baltimore, Md.): The Nature of the Leucocytosis Produced by Nucleinic Acid; A Preliminary Experimental Study.

C. C. MAPES, (Louisville, Ky.): Notes on Suicide.

JOHN C. HEMMETER, M.D. (Baltimore, Md.): Experimental Basis of the Dietetic and Medicinal Treatment of Hyperacidity and Gastritis.

C. C. FITE, M.D. (New York): A Plea for a Uniform Diastase Test.

GEORGE BEN. JOHNSTON, M.D. (Richmond, Va.): 1. Value of the Public of State Medical Societies. 2. Symptoms and Treatment of Hepatic Abscess, with Report of 17 Cases. 3. Acquired Umbilical Hernia in Adults. 4. Splitting the Kidney Capsule for the Relief of Nephralgia.

CHARLES P. NOBLE, M.D. (Philadelphia): 1. Pregnancy and Labor as Influenced by Suspensis Uteri. 2. Movable Kidney. 3. Ectropion of the Cervix in Nulliparæ Resembling Laceration of the Cervix. 4. Remarks on the Use of Buried Permanent Suture in Abdominal Surgery. 5. Vaginal Incision and Drainage of Suppurating Hæmatocoles Due to Ectopic Gestation. 6. New Method of Suturing the Abdominal Wall in Celiotomy. 7. The Technique of Operation for the Cure of Laceration of the Pelvic Floor in Women. 8. The Development and the Present Status of Hysterectomy for Fibromyomata.

The American Therapist.

A MONTHLY RECORD OF MODERN THERAPEUTICS,

WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

VOL. VI.

NEW YORK, DECEMBER, 1897.

No. 6.

Original Articles.

CHLOROSIS,—ITS ETIOLOGY, DIAGNOSIS AND TREATMENT, BASED UPON CONSTIPATION AS A CAUSATIVE FACTOR IN THE PRODUCTION OF THE MORBID CONDITION.

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That constipation plays a considerable part in the production of many pathological processes, which are chiefly functional, must be granted. That it plays a prominent part as an etiological factor in chlorosis would seem to be clearly proven. The deductions enumerated in this paper are based upon a study of chlorosis in six cases, where the existing constipation was looked upon as the causative factor, and where remedies directed towards the cure of the constipation very promptly relieved the chlorosis as well. This thought is not new. Our forefathers in medicine recognized a close relation of *cause and effect* between constipation and chlorosis, and especially have our English colleagues insisted upon the necessity of relieving the former before the latter would disappear. It was Sir Andrew Clark, who maintained that a "constipated bowel was the chief cause of chlorosis in the young woman," and his theories, relative to the manner in which the chlorosis is brought about, are rational enough to demand our sober consideration, even today.

It is, in short, by means of the ptomaines and leucomaines, which appear in the bowel and which are absorbed, that the blood making function, along with other functions, is disturbed. Unlike other forms of anemia, which are produced by loss of blood or by destruction of blood elements, chlorosis is clearly shown to come about from a defective creation of new blood. The fact that in chlorosis the microscope (except in very severe cases) shows the number of red cells normal, with neither pathologic changes in their size nor form, and the leucocytes also normal, while the percentage of hemoglobin is often very much reduced—sometimes as low as 30 and 40 per cent. (100 per cent. being normal) and occasionally even reduced to 10 per cent—proves beyond the pale of a doubt, that this condition is due to faulty *hemogenesis*.

Constipation means stagnation, and with this stagnation is necessarily associated, sooner or later, fermentation and decomposition of the nitrogenous, organic substances in the intestine. Noxious gases are thus evolved and various putrefactive alkaloids appear. It is the absorption of these which poisons the blood, coats the tongue, destroys the appetite, makes the headache and the dizziness, causes the muscae volitantes and the black spots before the eyes, and finally by disordering the various vital and blood making organs, brings about that blood state, which we call simple primary anemia, or chlorosis. Other influences may be and no doubt are sometimes at work, but the usual means ascribed plays a more prominent part, I am lead to believe, in the direct production of constipation than in the production of the chlorosis. I refer to the lack of exer-

cise and fresh air and to sedentary habits, whose importance in the direct production of chlorosis is, in my opinion, over-estimated.

Diagnosis of Chlorosis.—This must be made chiefly by means of the microscope, and with a little care is not at all difficult, save between chlorosis and simple secondary anemia, where, at times, differentiation may require especial precautions. The diagnosis must ordinarily be made between chlorosis (which is a simple primary anemia), simple secondary anemia, pernicious anemia, and leukemia.

The examination of the blood reveals the following points:

(a) *Chlorosis*.—The drop of blood as it appears on the finger tip, or lobule of the ear, after the prick of the needle, is decidedly pale; the hemoglobin, estimated after the Fleischl or Gower's method, will be found reduced to 60 per cent., 50 per cent., 40 per cent., and sometimes as low as 10 per cent.; the specific gravity reduced proportionately; the red cells will be found, as a rule, normal in number, size and form, except in very severe cases of chlorosis, where the number may be reduced to three million and where decided poikilocytosis is present; leucocytes are never increased in number.

(b) *Simple Secondary Anemia*.—A decrease in the number of red cells is found, but, as a rule, no changes in their form and size, especially no considerable changes; now and then poikilocytosis is observed and occasionally a few nucleated red cells; leucocytes, as a rule, are somewhat increased, but may be normal, or slightly decreased, rarely; the percentage of hemoglobin is reduced; the appearance of the blood in simple secondary anemia is largely dependent upon the cause and also upon the length of time during which the cause has been active; among the causes of simple secondary anemia may be mentioned tuberculosis, nephritis, malignant disease, syphilis, etc. Cases of supposed simple secondary anemia are occasionally met, with marked poikilo-

cytosis and also nucleated red cells, where the number of erythrocytes is decidedly decreased. Such cases must be carefully studied and reviewed, and the probability of progressive pernicious anemia constantly kept in mind.

(c) *Pernicious Anemia*.—The color of the blood is not characteristic. It may be normal in color or very pale. It is often so thin that the drop remains on the cover glass with difficulty while a second glass is being applied; the number of red cells is most decidedly decreased and poikilocytosis (with microcytes and megalocytes) is marked; nucleated red cells are rarely wanting; their size and number vary; the hemoglobin (Gower's or Fleischl's method) will be found much decreased (often as low as 20 and 18 per cent.), but the individual cells contain a normal amount of coloring matter. This seeming contradiction of statement is readily understood. It is the great decrease in total number of red cells, which brings the total percentage of hemoglobin down. The number of leucocytes remains normal, as a rule, an actual increase never being found.

(d) *Leukemia*.—The diagnosis of leukemia is not at all difficult, where a count is made of the number of red cells and white cells. The normal relation, one white cell to 500 red cells or 1 to 1000 reds, is decidedly altered, and we are often confronted by the relation 1 white to 100 red, or 1 to 20, and in some cases of leukemia, by a relation of 1 to 1 and even 2 to 1, occasionally. The drop of blood looks pale, but it is possible for it to be normal in color; the red cells vary in size and are customarily pale; blood plaques are increased in number. Besides increase in the number of white cells, certain morphological characters are prominent in leukemia, viz., small and large leucocytes, with fine granulations in their center and body, and others with very coarse granulations.

The possibility of making a differential diagnosis between the various blood states could never have been dreamed of with-

out the microscope; in fact, only the microscope has made it possible at all to classify these various states and make some method out of the previous chaos.

The gross appearances of the patient, viz., the pallor and extreme waxy color, the many and varied other physical signs and symptoms, such as general weakness, lassitude, dyspepsia, diarrhea, capillary hemorrhages, etc., are quite untrustworthy in a differential diagnosis, since so many of them are common to either or all the blood conditions, including the several varieties of leukemia.

Almost every worker in blood has a technique which he has worked out, and which, peculiar to his own modest little laboratory, and because it gives him satisfaction, he declares to be the best. Probably I am no exception to this general rule. The technique employed by me in preparing a specimen of blood, for microscopic examination, is as follows: Fat is removed from the cover glass by means of nitric acid and the glass further cleansed of all foreign extraneous matter, preferably with thin tissue paper, especially prepared for this purpose (Joseph of Berlin has had prepared a so-called "Joseph Papier," which answers the purpose better than anything with which I am familiar), or with a soft linen or clean gauze strip. The glass is then held ready by means of a forceps and not in the hand, since the heat of the hand would cause too rapid evaporation of the blood and occasion changes in the corpuscular elements. The finger tip is then cleansed with soap and water, then with alcohol and finally rinsed in a stream of water, poured on it to get rid of all loose epithelium, etc., and the puncture made with a sharp pointed, sterile needle. It were better to obtain the blood from the lobule of the ear rather than from the finger, since the wound on the former is less liable to later infection, than the same wound would be on the finger, which is afterwards kept in such constant use. The puncture made, the drop of blood should be permitted to

escape without any forcible squeezing. Squeezing materially damages the integrity of the blood cells. Immediately, the drop of blood has made its appearance, the cover glass is brought into gentle contact with it and a second glass, prepared in a like manner to the first, and held in another forceps, is laid on the first glass. The forceps are never removed and the glasses are carefully drawn apart. We thus attempt to obtain a blood film, on either glass, whose thickness shall, if possible, be no greater than the thickness of the blood corpuscles. Some practice is necessary before this very desirable result may be attained. My observation has been that most beginners make the mistake of seeking to get too large a drop on the first cover glass. This necessarily prevents the obtaining of a thin film and a thick one makes an opaque field. Each cover glass is now thoroughly dried in the air and next "fixed," which means that the albuminous matter in the blood cells is rendered insoluble, so as to avoid changes taking place when the stain is applied. There are many "fixing agents," but formol seems best, since it renders the protoplasm and hemoglobin absolutely insoluble in a few seconds, and, at the same time, does not in the least affect the integrity and outline of the cellular elements of the blood. If formol is not available, heat (240° F.) will fix the specimen in about 5 to 10 minutes, or a mixture of equal parts of absolute alcohol and ether (C. P.) applied to the specimen, will accomplish the desired result in from 30 to 45 minutes. Where heat is used as a fixing agent, a small oven with stationary thermometer is necessary. The specimen is ready for staining as soon as it is "fixed." One caution—avoid overstaining. The "tri-acid stain" and the "eosin-hematoxylin stain," both of which were originated by Ehrlich, have given the best results in my hands as staining solutions. The pictures which they give are usually clear and well defined, and this is in marked contrast to many other

staining fluids, which give blurred and ill defined results. Besides, both of the two stains are quite stable, remaining serviceable for from 4 to 6 months before changes take place to make them worthless, and this, too, can hardly be said of many blood stains.

For the benefit of those, who may not be familiar with blood analysis, I shall describe the preparation of both solutions, and will say that it requires ordinarily no expert to prepare them, if the proper ingredients and the proper quantities are carefully mixed.

Tri Acid Stain—Ehrlich.

Aqua dest.	3 ii
Orange G.	3 iiss
Acid Fuchsin	3 i
Aqua dest.	3 ii
Alcohol	3 ii
Methylene Green	3 iiss
Aqua dest.	3 ii
Alcohol	3 ii
Glycerine	3 ii

Mix these ingredients gradually and set the solution aside several weeks, when it will give brilliant results.

Hematoxylon-Eosin Stain—Ehrlich.

Hematoxylon	gr. xv
Alcohol absolut.	3 i
Glycerine	3 i
Aqua dest.	3 i
Ac. Acetic Glacial	3 iss
Alum, q. s. ad saturation.	

The hematoxylon is dissolved in the alcohol and the other ingredients added, one by one, and the solution is then set aside, exposed to the light for about three weeks, when it is filtered and 1 per cent. eosin added. It is ready now for immediate use. Should it in time turn red, it has decomposed and is unfit for further use.

Treatment:—As has been already stated, regard was only had in these six cases for the existing constipation. It was a series of experiments upon six female patients in whom the diagnosis of chlorosis was clearly made by microscopical examinations of the blood, hemoglobin estimation, and upon whom various remedies for the relief of their constipation were

tried. As has also been stated, the result was, in each case, happy.

Heretofore, it has been assumed, after the theory of Bunge, that alkaline combinations of sulphur are directly responsible for the chlorosis, and in this way: Bunge reasons that these alkaline combinations of sulphur, which are so commonly found in the intestine of chlorotic patients (who necessarily suffer from intestinal indigestion), act upon the organic compounds of iron, present in our food stuffs, and separate the iron before it may be absorbed. He therefore gives the inorganic preparations of iron and says, we must assume that this iron immediately fixes the sulphur of these alkaline sulphides, and before the organic iron in the food has had time to decompose. This theory is so extremely delicate and hypothetical that it is difficult to accept, and I have wondered that Osler is willing to attach so much importance to it.

Now then, the question may be asked, Is it a fact that these patients suffer with indigestion from the very incipency of their chlorosis? I feel almost sure that this question would have to be answered in the negative. That they suffer from indigestion, I will not deny, but this is a part and parcel of the developed state, which we call chlorosis, and, in my opinion, stands out primarily as a result and not as a cause of the disease. When the indigestion is developed, there is no doubt that it operates to increase the chlorosis, and to delay convalescence. However, for the sake of argument, let us accept Bunge's assumption that, in some way, the organic compounds of iron, present in the food, are protected from decomposition in the digestive tract by the inorganic preparations of iron, which he would have us administer, as medicine, to the patient. If it is the decomposition of the organic iron in the food which we desire to prevent, why not do this after a more rational and natural method. Nature has provided us with an intestinal anti-septic more active, more powerful than

any artificial substance which can at the same time be safely administered. This agent is—*bile*—nature's own antiseptic, nature's purgative and digestant. Let us then give such remedies as stimulate the flow of bile. We will thereby not only prevent the action of the sulphur of these alkaline sulphides in separating the organic iron of the food,—we will not only prevent intestinal fermentation and decomposition of all kinds and sorts, and thus prevent the evolution of new ptomaines and leucomaines. but we will, at the same time, by continuous purgation, get rid of the source of all trouble—stagnant, fermented and fermenting, decomposed and decomposing, nitrogenous organic matter. "An empty house is better than a bad tenant" is an old saying. It is surely applicable to the circumstances under consideration, at this moment. In a letter which Mark Twain purports to write to his sweet-heart, each verse ends, "Oh sweet-heart! How's your liver? For if your liver serve you right, your health is good and visions bright."

You will understand, then, I advocate as cathartics, cholagogues, and would enter an objection to the ordinary "purgative salts" as recommended by Osler. The latter are entirely too drastic and leave the bowel more constipated than it was before—"after the storm comes the

calm." It were much better to select such remedies as are mildly purgative or laxative, since they must be kept up for so long a time. Among these, I would give especial prominence to phosphate of soda, to cascara sagrada, to small doses of aloes, small doses of podophyllin, to rhubarb and to jalap. Of these various agents my preferences are decidedly for phosphate of soda and forcascara, both of which are splendid cholagogues and may be administered for weeks and even months at a time.

It was my habit in the management of the six cases, I am now about to report, to begin by giving a teaspoonful of the phosphate of soda (powdered) dissolved in a wine-glassful of hot water, each morning before breakfast. Unless this dose brought about, at least two good movemets per day, I gave a second dose at night before retiring. Some patients, I find, demand three and four doses per day, at the start, before the proper evacuations are obtained. Should hypercatharsis occur, the patient is directed to leave off one or more doses, until finally after several weeks the single morning dose is usually found sufficient. Fluid extract cascara sagrada is given by me in 3ss to 3i doses, preferably at night. This quantity was taken twice, thrice, and even four times daily by several of my cases, where the

NAME	AGE	FIRST CASE UNDER OB- SERVATION	HAS BEEN SICK	HOW LONG MENSTRUAT- ING	BOWEL HABIT	NUMBER OF RED CELLS	NUMBER OF WHITE CELLS	% HÆMOGL.	UNDER TREATMENT						TIME OF CURE
									FIRST MO.			SECOND MO.			
									R	W	H	R	W	H	
M. J.	19	Sept. 1896	5½ mos.	5 yrs.	Const.	4900000	7500	50	4700000	7500	55	4500000	7500	67	4 mos.
Sarah F. . .	17	Feb. 1897	4 mos.	3½ yrs.	Const.	3600000	8000	55	40.0000	8200	70	5200000	8300	85	3 mos.
Ophelia S. .	16	Nov. 1896	1 mo.	4 yrs.	Const.	5260000	10000	37	5000000	9000	48	4800000	9500	48	5½ mos.
Lizzie H. . .	15	Dec. 1896	10 mos.	5 yrs.	Const.	4330000	7000	40	4800000	7500	42	4300000	7500	77	2½ mos.
Mary V. . .	15	Jan. 1 97	7 mos.	6 mos	Const.	4200000	8500	32	4200000	8000	55	4500000	8300	75	3 mos.
Gracie C. .	16	July 1897	2½ yrs	Never menstr.	Const.	4000000	7000	25	40.0000	9500	50	4000000	9000	57	2½ mos.

constipation appeared stubborn. Oftentimes, a combination of cascara with sodium phosphate will be found effectual in conditions which have resisted either remedy when given singly. When the bowels were once performing their function, it was not long before it was found that the headaches disappeared, the tongue cleared, and there was return of appetite, while the digestion materially improved. Improvement in general appearance soon manifested itself, now, and the patients stated they felt altogether different. The languor and lassitude disappeared, and, in its place, came activity and renewed vigor. I append hereto a short account and resume of the six cases, as copied from my record book, with their respective blood charts. NOTE: *Time of Blood Examinations*: Never less than 3 hours after food was taken.

The conclusions reached would seem to be these:

(1) Constipation plays a prominent part in the production of chlorosis.

(2) Treatment of the existing constipation, as shown by this very limited experience, effectually removed the morbid blood state.

(3) The effect was undoubtedly obtained by removing existing toxic material, preventing the formation of fresh toxic substances and aiding digestion.

(4) The iron in the food seems to be all sufficient for the demands of the economy, if we will only permit of its absorption. (b) The latter is best attained by preventing decomposition in the bowel and hence preventing the separation and destruction of this iron.—*Bunge*.

(5) Iron administered should preferably be some inorganic preparation, and its action is to preserve the organic iron, present in the food, until it can be absorbed.

(6) Since it is our aim to prevent fermentation and decomposition and aid digestion, this end can surely be obtained by means of "nature's intestinal anti-ferment and digestant—bile."

THE TREATMENT OF INSOMNIA.*

By REYNOLD W. WILCOX, M.D., LL.D.,

Professor of Medicine and Therapeutics in the New York Post-Graduate School of Medicine; Physician to the Hospital and to St. Marks Hospital.

The treatment of insomnia is a subject that has attracted a great deal of attention in medical discussions for the past fifteen years. There are very many papers upon this subject in the literature, a majority of them very unsatisfactory.

In the first place, insomnia is a symptom. As a symptom, so far as I know, it never causes any organic brain disease. To be sure, insomnia is a symptom of a great many organic diseases of the brain, but, of itself, never produces any. If it exists without any valid somatic cause, we must look for some disease as yet undiscovered. Insomnia is an important symptom, for physiological experiments show that animals will live about the same length of time without sleep as they will live without food. Insomnia markedly interferes with nutrition, and from that standpoint the insomnia which follows operations becomes a study worthy of the attention of the surgeon as well as of the physician. We would have a comparatively easy problem if we had a good physiology of sleep. Those of you who have come more recently from the text-books on physiology will recall that with two or three exceptions, the subject of the physiology of sleep is passed over without comment, and in the two or three exceptions the treatment of the subject as given is entirely inadequate.

So far as it has been discussed by physiologists, they agree pretty accurately that sleep is accompanied by an anemia of the brain. That anemia of the brain is not the cause of sleep is perfectly evident, for in the case of the anemia which takes place after severe hemorrhages, not sleep but wakefulness is the rule. Nor can the cerebral anemia be

* Read before the New York Post-Graduate Clinical Society, Oct. 1, 1897.—From *The Post-Graduate*.

due to vaso-constriction, or we would have other evidence—*i. e.*, pallor of the face. On the other hand, it is perfectly clear that in connection with the anemia of the brain we must take into consideration the demonstrated anatomical fact that the cerebral blood vessels have to a very large extent no vasomotor nerves. It was not until 1881 that it was absolutely demonstrated by Mosso that sleep is accompanied by dilatation of the blood-vessels of the limbs. His experiments were confirmed by Roy and Baylies, by Gaertner, and others; and more especially during this present year, Howell, of Baltimore, has demonstrated that there is dilatation of the cutaneous blood-vessels in connection with sleep. Hill a few years ago believed that sleep was caused by dilatation of blood-vessels in the splanchnic area. It is possible that he was correct, yet further experimentation is necessary before we accept his theory. Howell's experiments gives us no clue to the influence of drugs in producing sleep. At the present time, however, I think it is possible to put the physiology of sleep on a fairly scientific basis. In 1890 Rabl-Ruckhard first promulgated the theory of the neuron. He was followed by Ramon y Cajal, who showed that the protoplasm in the dendrites is contractile. Many years before this Hodge had proved that nerve-cells lost volume after fatigue. Many years before this even Binz had proved that, under the influence of morphine, nerve-cells changed their contour and took on something the same appearance that white corpuscles do after the administration of quinine. If, then, we accept the theory of the neuron as tenable, we have a very accurate physiology of sleep. Under the influence of fatigue, or under the influence of drugs which are protoplasmic irritants without being poisons, there results a contraction of the dendritic processes of the neuron, and sleep supervenes. So far as a chemical hypnotic is concerned, we must go to drugs which influence protoplasm without

poisoning it, and which cause a contraction of the dendritic process of the neuron.

In 1889 Leech, of Birmingham, found that the alcoholic radicals, $C_n H_{2n+1}$, of which ethyl is a familiar example, had the property of diminishing the irritability of the nerve cells of the brain. Chlorine has the same property. Later, it was found that there was an increase of the physiological properties of the alcoholic radicals produced by the addition of chlorine, but that there was an interference with respiration and circulation to a more or less dangerous extent. When an amide radical was introduced, the result was a stimulating action on the brain which counteracted the depressing action of the chlorine; hence an ideal and safe hypnotic would be one combining ethyl radicals and chlorine with the amide radical. It is likely, therefore, that inasmuch as the number of carbon compounds is practically unlimited, we shall find in the future the ideal chemical hypnotic.

So far as producing sleep by physical measures is concerned, I would say that a large number of methods have been published, such for example, as the repetition of somnifacient poetry, etc.; but, so far as I know, they have all failed. The only physical remedy at all efficient in producing sleep is the hot bath at a temperature of 104 degrees Fahr., kept up until the cutaneous surface is thoroughly reddened. Slow music, sermons and temperance lectures have all been vaunted as excellent hypnotics, but are not immediately applicable at the time when sleep is most necessary.

Of the drugs which have been used to produce sleep I shall speak somewhat at length, particularly of the more recent ones. There is no doubt that in the first rank, as regard surety of action, is opium, and its alkaloids, morphine, codeine and narceine; but when we consider that these are narcotics rather than hypnotics, and when we consider that in the closing years of this nineteenth century there are a large number of safe hypnotics, we confess

the therapeutic ignorance when we use opium or its alkaloids as chemical hypnotics. Hyoscine, hyoscyamine and scopolamine have been advanced as hypnotics, and they are so to a limited extent, but the disagreeable mydriasis, the dryness of the throat, the fact that the dosage has to be increased with great rapidity, lead me to believe that they should be excluded from the list of safe and practical hypnotics. In the insomnia accompanying insanity hyoscine sometimes yields brilliant results.

So far as the preparations derived from *Cannabis Indica* are concerned, these also can be excluded. They are efficient, but are of the narcotic variety. So we can get rid of Jamaica dogwood, which is also a narcotic. One drug of vegetable origin is useful; I refer to pellotin. Only five papers have been written upon it, one of these being by myself. It is obtained from one of the cactus family of Mexico. This drug has been experimented upon, and has the advantage of being administered hypodermatically. When given early in the day it will give several hours of sleep. It has been administered only to about one hundred or one hundred and fifty persons. After hypodermatic injection of half a grain the person feels drowsy in about fifteen minutes; the limbs feel heavy, and the sleep lasts from seven to eight hours. The awakening is usually without any untoward symptoms. There have been two or three instances reported in which vertigo has occurred. The drug does not interfere with nutrition, and does not require increase of dose, and has not caused collapse.

Now, when we come to the synthetic coal-tar products, we find that the only alcohol used therapeutically to produce sleep is amylene hydrate. It has been used for a number of years, and is a fairly potent hypnotic. In drachm doses it does not depress the heart, but it is of very temporary power, and the dose has to be rapidly increased. It is useful in certain cases of cardiac disease where a temporary

hypnotic is required. The only ether which is used for hypnotic purposes is methylal. This is a good deal like amylene hydrate in its rapidity of action, and in the necessity for rapid increase of doses, and is without untoward effects. In a few cases of sleeplessness due to alcoholic excesses I have used it with fair results.

The drug belonging to the aldehyde series which has attracted the most attention is paraldehyde. It has been adopted in the pharmacopeia of 1890, and also in the German and British pharmacopeias. It gives an abominable odor to the breath. It does not ordinarily depress the heart or interfere with respiration, but it is extremely disagreeable to take; but the effects are satisfactory. One would suppose that a drug with such a nasty odor would never lead to a habit, yet in the last year Rheinland has reported several cases of paraldehyde delirium tremens, and, to my knowledge, there have been several cases of this habit, which have, however, been cured by asylum treatment.

Chloral is the most popular hypnotic, but is the one which most frequently gives rise to habit. Clergymen seem to be particularly addicted to the formation of this habit. When I opened the discussion on hypnotics at the British Medical Association last month I was taken to task for saying that chloral was a dangerous drug, yet it was admitted that it was the custom to give digitalis with the chloral. Digitalis is not an antidote to the paralyzing effect of chloral when administered with it, for the action of digitalis is altogether too slow. Cases were quoted in which patients had taken large doses of chloral and had survived, but these exceptions prove nothing, and were no more an argument for the safety of chloral than the fact that persons have fallen from great heights and have escaped injury is an argument for jumping off high buildings. Chloral is not a safe drug. Sooner or later chloral will be used in a case of fatty degeneration of the heart, and the patient may be killed with perhaps a dose

of only ten grains. It is not a safe drug certainly in the hands of such practitioners as would administer digitalis at the same time! Of the substitutes for chloral, butyl chloral has been abandoned. Professor Richet claims that chloralose is a sedative so far as the brain is concerned, and a stimulant so far as the spinal cord is concerned. This is true of dogs, but in a fatal case seen in practice the paralysis came from the heart, and there were no symptoms that could be attributed to over-excitability of the spinal cord. There is a safe derivative of chloral, however,—chloralamide. The introduction of the amide radical neutralizes to a considerable extent the depressing action on the heart. It is fairly insoluble, and is therefore more prolonged in its action. It is far safer than chloral. It is difficult to form a habit with chloralamide, yet I know of one instance in which the patient developed the habit after taking it without my knowledge for a year. The habit was cured without great difficulty.

Among the sulphur derivatives we have sulphonal. This is *the* popular hypnotic in England, and is used on the slightest provocation. It is a safe drug, but is not adapted for scientific use, as its action may be prolonged until the next day, or even the day after. This is because it is so insoluble. More than this, it causes exanthemata, ringing in the ears and vertigo, and also causes some depression of the heart. Five fatal cases have been reported during the past year in the British journals from the continuous administration of only small doses. The mode of death was about the same in all. They had loss of memory and became mentally dull, and the urine became bloody. This is not a large number of deaths considering the extensive use of the drug, but there seems to be no way of determining beforehand when it will act badly.

Trional is a good deal safer; it is not quite so insoluble. The superintendents of insane hospitals will tell you that where trional is used in considerable doses ex-

anthemata are the rule and not the exception. Certainly the results from this drug warrant us in considering it important. There has been only one fatal case reported. A dose of twenty grains administered on three successive nights, with an interval of two nights between each, to a patient having urobilin in the urine, caused death. It should be said that the patient also had ascites, a cirrhotic liver and a weak heart.

Tetronal has been used very little in this country. Urethane was used some years ago. It had feeble hypnotic power, was rather uncertain in its action, and its effects passed off quickly. It did not give rise to much disturbance. There are two drugs claimed to be combinations of urethane. One, chloral methane, had a great deal of commercial booming three or four years ago; it is a mechanical mixture of chloral and urethane, and has no advantages but all the disadvantages of its components. Later on, an alcoholic solution of urethane was sold under the name of somnal. It was a mechanical and not a chemical mixture, with no special advantages. Of hypnone and hypnal I would only say that they were feeble in their action and practically useless.

In every discussion on insomnia some one always decries the use of drugs for the treatment of insomnia, but he usually ends by lauding some pet drug which, he asserts, is not a hypnotic. I recall a case of this kind, in which the speaker stated toward the close that he used strychnine. His explanation was that strychnine made people, who were not sufficiently weary, just tired enough to go to sleep. I have shown that strychnine is not a vaso-constrictor, but a vaso-dilator. This vaso-dilatation may accompany cerebral anemia, and so, under certain circumstances, strychnine may be a good hypnotic. This same gentleman said that magnesium sulphate was a useful hypnotic. In gouty persons something circulates in the blood which causes vaso-spasm, and magnesium

sulphate will eliminate this substance, and hence favor sleep. In advanced arterial degeneration of the kidneys, where the heart is enormously hypertrophied, chloral is perfectly safe, because it slightly dilates the blood-vessels and decreases the cardiac contractions. I have no doubt that the use of drugs to produce sleep is a dangerous procedure unless kept within proper limits. It is a good plan to dispense hypnotic drugs yourself, and disguise them by flavoring agents so that an apothecary cannot detect their nature and fill the prescription without your knowledge. Some people object to what they are pleased to call the "many new-fangled hypnotics," and say that chloral is good enough for them. It doubtless is better for them than for their patients. We should investigate the new hypnotics most earnestly, and quickly exclude those which are found wanting. We must be constantly on guard to prevent our patients from forming drug habits. But, do what we will, there will be a certain number of persons who will require at times some scientific hypnotic to bring to our aid "tired Nature's sweet restorer."

A discussion of the subject followed the delivery of the foregoing address, participated in by Drs. Porter, Chapin, and others. Dr. Wilcox closed the discussion with the following summary:

Probably the most potent hypnotic is *paraldehyde*; next comes *chloralamid*; then *pellotin*, and lastly, *trional*. Sleep follows *most quickly after pellotin*, next after paraldehyde, then after chloralamid, and lastly after trional. With moderate doses the longest sleep is obtained from trional; next comes paraldehyde; then pellotin, and lastly, chloralamid. The danger of a habit from pellotin is extremely slight; it is a little greater from chloralamid, and there is very great danger from paraldehyde, as shown by the published reports. Chloralamid seems to be the safest of them all; next comes pellotin; next paraldehyde, and the most dangerous for continuous administration is trional.

PELLOTIN was introduced in July, 1896, by Prof. Jolly and Dr. A. Heffter. A complete pharmacological report was published in the AMERICAN THERAPIST, July, 1896.

URIC ACID POISONING.*

By T. P. SATTERWHITE, M.D., of Louisville, Ky.

One day last week I was summoned hurriedly to see a patient who had been taken with aphasia; a woman was taken suddenly with inability to express herself; I saw her fifteen minutes afterwards. I could not account for the symptom, and asked as soon as it could be done that they send me a sample of her urine. By the time I reached home I was again summoned, the message being that she was in a convulsion. In the course of a few hours a sample of her urine was brought to me, and upon being tested it was found to be heavily loaded with albumen. I had given her a large dose of calomel to be followed in six hours with salines, and as soon as she had a free evacuation, the aphasic symptoms commenced to disappear; she gradually grew better, and in a day or two could express herself freely.

She is a strong, robust, healthy-looking woman, has rarely ever been sick, and I am satisfied in my own mind that she has a crippled kidney, and that it was the result of poisoning from uric acid probably that produced these symptoms.

I report the case from the fact that there are a great many apparently healthy persons who may have renal trouble. Not long ago I saw with my friend, Doctor Peter Guntermann, a case in which I administered chloroform for him to operate for bone felon upon a robust looking patient. She had following the operation an intense cellulitis of the hand extending up above the wrist. She grew progressively worse and twenty-four hours before death she was in a comatose condition. I suggested to the doctor that I did not believe there was sufficient local trouble to produce death, and very likely the chloroform that was administered had set up trouble in a crippled kidney, and she died from renal trouble.

* Reported to the Louisville Clinical Society and contributed exclusively to THE AMERICAN THERAPIST.

*ELECTRICITY IN THE TREATMENT OF GOITRE.**

By J. M. KRIM, M.D., of Louisville, Ky.

In presenting this paper to the Clinical Society I cannot offer anything new or original, as Althaus, the elder McKenzie, Erb, and others used electricity in the treatment of goitre fifty years ago. Since then, however, electricity has made such monstrous advancing strides in the commercial world, which also applies to some extent in medicine, and decidedly so in surgery, that I may be excused for giving my experience with it.

Shortly after I had purchased a Waite & Bartlett 44 cell electrical machine, eight years ago, a Miss G., aged twenty years, consulted me because of a cystic goitre the size of a large orange, claiming it had been steadily growing larger for eight months; that she had been under treatment for two months, with no diminution in size of the growth, and had been advised to have it removed by knife, which she refused. Believing further argument upon the surgical aspect of the case would be useless, I suggested electrical treatment, to which she consented.

Filling a cup-shaped electrode with some absorbent cotton, saturating it with compound tincture of iodine, and connecting it with the anode, or positive pole, using a large sponge electrode with the cathode, or negative pole, the first was applied to the surface of the tumor, the latter as near to it as could be done conveniently. The current, guarded by a rheostat, was then turned on, using twenty milliamperes, ten minutes, which gave her no pain; she only complained of tasting the iodine after a few moments application.

This treatment was used twice a week for two months, at the end of which time the tumor had been reduced to the size of

a guinea egg. The treatment thereafter was given once every two weeks for two months longer when it was discontinued, the patient to report at the end of three months, which she did, with no enlargement of the tumor. She reported six months later and there was still no enlargement. Believing her cured she was discharged.

This being my first experiment with electricity, in such cases, I felt encouraged and have continued using this method in the treatment of goitre ever since without any cause for regret. I have found that where the goitrous tumor is very large and cystic, by emptying it with a trocar and then using electricity with iodine, will shorten the treatment very much.

The solid or fibrous goitre does not yield so readily to this method of treatment, and electrolysis or electro-puncture is best used. It is perfectly safe, and free from danger of hemorrhage. By washing the tumor thoroughly clean and painting it with pure carbolic acid, over a space about half an inch in diameter, and then freezing it with chloride of ethyl, you can introduce the needle almost painlessly, then turn on the current, which is guarded by a rheostat, using from fifteen to thirty milliamperes for five to ten minutes. This can be repeated once a week only. For two years I have used the so-called saddler's needle, which is very cheap and is usually thrown away after being used once. With this treatment it requires only about half as much time as the other.

I do not regard electricity as the only proper treatment for goitre, but considering the fact that about seventy-five per cent. of those afflicted with this trouble are females, who, as a rule, have a horror of the knife, I believe electricity should be given a trial, and if it fails there is no harm done, and the knife can then be used. The only thing that can be said against electricity is that it requires a longer time to achieve the desired results.

I will here briefly summarize the results of my experience in this particular:

* Read before the Louisville Clinical Society, and contributed exclusively to the AMERICAN THERAPIST.

Total number of cases treated	90
The youngest.....	17 years
The oldest.....	50 years
The smallest tumor treated the size of an orange.	
The largest tumor the size of a cocoanut.	
Cystic, or fibro-cystic	50
Firm, or fibrous	39
Vascular	1
History of both parents having goitre.....	40
History of one parent having goitre	15
History not obtainable.....	35
Emigrated from Switzerland	40
Emigrated from Vienna.....	15
Born in this country from German parents... 35	
Under treatment from two to three months, and observation for two years, with no return of tumor	50
Under treatment for six weeks, with decided diminution of tumor, that quit treatment. 22	
Under treatment for three weeks with some improvement, who left the city, hearing nothing more from them	17
Vascular tumor treated only two weeks with no benefit	1
Right lobe affected.....	60
Left lobe affected.....	20
Both lobes affected, the right the larger	10

The following case is given in detail, as it is very interesting. Miss S., aged twenty-six years, single, came to my office in April, 1894, showing a tumor of the right side of the neck the size of a large orange, which according to the history she gave began to grow when she was twenty years old. As both parents had goitres they thought nothing of it. She left home (Switzerland) in September, 1892, coming directly to Louisville. She claimed that the tumor had grown more rapidly during the last year than at any time previously.

After making a thorough and painstaking examination I diagnosed the tumor as a goitre, and treated her for two months, with a decided diminution in the size of the growth. She received a letter shortly afterward to come home (Switzerland), and I heard nothing more from her until November, 1896, at which time, she having returned to this country, I was called to see her at her home three miles in the country.

On my arrival I found the woman in a dying condition, and so informed her husband, to whom she had been married four months after her arrival in Switzerland. He being a man of intelligence gave me the following history:

Three months after their marriage she

consulted Dr. Kocher, of Berne, who advised her to have the goitre removed by surgical means. As they were anxious to come to this country she consented, and nearly all of the tumor was removed by enucleation. One month later they came to their present location, she feeling nothing more of the tumor until July, 1896, when it began to grow again; but being pregnant she did not desire to have anything done. She claimed that in three months time it grew two-thirds of its present size, which was as large as a cocoanut. Her demise, which occurred two hours after my arrival, was due to puerperal sepsis, she having aborted at eight months, five days previously, the fetus having been delivered by a midwife.

I procured a specimen of the tumor and had it examined microscopically. It proved to be a large round-cell sarcoma.

DISCUSSION.

Dr. S. G. Dabney.—I have lately had under observation a lady who has been suffering with an exophthalmic goitre, and while this character of goitre was not included in Dr. Krim's paper, I will mention the case as it has a direct bearing upon the subject. I saw her some years ago, and was told by her husband, who is a physician, that she continued in about the same condition as when I first saw her. In the last six months she has been under the treatment of a specialist in nervous diseases here, who, I am told, is using electricity, and the goitre has about disappeared.

Dr. William Cheatham.—Dr. Krim has certainly seen a great many of these cases. When I was not as busy as at present I use to treat such cases occasionally. Now I usually refer them to others. When I visited Europe I searched in every city for needles to be used in treating these cases with electricity; I wanted those that were insulated. And not until I visited Paris did I find a man who could make them. I procured a supply from him and used them subsequently in the treatment

of several cases. I think the insulated needle would be better, because they are much less likely to leave a scar. Those I used were made of gold and insulated. The chemical action extends along the entire length of the needle, which includes the skin as well as the gland structure, and the needle ought to be insulated so that this action would only be in the gland. I had them insulated for that reason. For cosmetic reasons in women this is a very important point; in men it does not make so much difference.

Dr. J. M. Krim.—In the first set of instruments I obtained from Waite and Bartlett I had some insulated needles, but they were large and clumsy, and their use was discarded. It stands to reason that the scar would be less by the use of insulated needles, but by using the small saddler's needle, such as I have shown you, I have had no trouble with scarring. If the treatment by electricity is not continued long enough, and the gland is not reduced to a very small size, it will naturally grow again. In one case I probably made one-hundred punctures within a space of four inches in area. No scar can be seen at the present time. Two weeks after the puncture there is a little induration where the needle goes through the skin, but this later disappears entirely. I dip the needle into carbolic acid before plunging it through the skin, which coagulates the albuminous substances in the skin and that probably prevents burning to a large degree. Upon introducing the needle in some cases there is a white fluid, or foam, which escapes around the needle, showing the formation of gases, but this has never caused any trouble in my cases.

Dr. J. W. Irwin.—Erb says that it requires from 120 to 140 milliamperes to be effective. The point where the needle enters the skin is where the greatest amount of heat is produced; the full force of current is not carried to the point of the bare needle. Therefore if the needle is not insulated there is danger of scarring.

Dr. J. M. Krim.—The authorities in this country on goitre, and especially its treatment by means of electricity, are, W. H. Walling and R. H. Bigelow, and they never use more than from 15 to 30 milliamperes; it depends upon the amount of resistance you get; if you get a great deal of resistance you have to use a stronger current. In some instances I have gone as high as 50 to 60 milliamperes, but seldom have to use over 30. I prefer to use a mild current for fear of doing local injury. If you introduce the needle into a cystic goitre, before evacuating the fluid, an interchange of gases takes place, the tumor becomes very tense, and if you continue you will do injury.

I have had several cases where there was a cystic condition which was quite large, and I have found by introducing a small trocar and letting out the fluid, then using iodine and the electric current, that more benefit is obtained. It has been suggested, where a cystic condition is present, that a large canula be introduced and empty the cyst, leaving the canula *in situ*, then an electrode is run through the canula thus cauterizing the interior of the cyst. This treatment is exceedingly painful, and few patients will care to submit to it. By the method I have described pain is usually very slight, and relief in most cases is prompt and permanent.

GONORRHEA IN WOMEN.—*The Medical Record* quotes this method of C. G. Cumston: In gonorrhea urethral and vesical irrigation should be made with a solution of potassium permanganate, 1 per 1,000 to 1 per 2,000, according to the case. The quantity at each irrigation should be at least one litre. The irrigation should be practiced every day, the usual duration of treatment being from ten days to two weeks or thereabout.

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Subscription Price, - - \$1.00 per annum.

PUBLICATION OFFICE, 73 TO 79 FULTON ST., NEW YORK.

Address all communications to

THE AMERICAN THERAPIST,

P. O. Box 1170.

New York City.

Vol. VI.

DECEMBER, 1897.

No. 6.

Editorial.

ANESTHESIA.

So many papers have been written on the subject of anesthesia that it would seem that the subject has been exhausted, but, in the main, each repeats the observations of its predecessor, without adding much to the sum total of information. In reviewing the subject, we have no hopes of saying anything original; we may, however, help some few, confused by the very richness of the material available, to make better choice in practice.

For practical purposes, there are to-day, as long ago, only two general anesthetics between which to choose. Nitrous oxide, pleasant and comparatively safe, is still adapted only for the briefest operations such as pulling a tooth, evulsing a toenail or opening an abscess. Other substitutes for ether and chloroform, have either presented objectionable features, or are still supported by too few observations to justify their serious consideration.

On the whole, ether is the favorite anesthetic, in spite of its expensiveness, its unpleasant odor, the strangling which it produces and the slowness with which it is eliminated. In spite of commissions and the favorable reports of various surgeons, chloroform is still regarded as the more dangerous, and statistics support this view. It occurs to us that the choice, as between antisepsis and asepsis, de-

pends on individual conditions and not on the mere compilation of statistics without regard to circumstances. The advocates of chloroform are almost without exception surgeons who operate nearly exclusively in hospitals, who have a regular anesthetizer and corps of assistants, who, in short, operate under the most favorable conditions possible. They are also men who can afford to loose an occasional patient, and carry out an individual preference in the face of a majority.

On the other hand, the physician forced to operate with untrained assistants, perhaps to be himself both anesthetizer and operator, must choose the anesthetic which can be used, if the term be allowed, more carelessly than chloroform, just as he would be forced to use antiseptics when his more favored colleagues could resort to the more troublesome and expensive but more brilliant technique of asepsis. He must also, in justice to himself, consider what measure of blame would attach to the use of chloroform, not as judged by a few of the leaders in surgery but by the rank and file of the profession with whom he comes in contact.

Under some circumstances, however, every one must give the preference to chloroform. A man operating on large numbers of patients, as occurs almost entirely in military and rail-road practice, must consider the element of time as important, thus chloroform which can produce anesthesia more quickly than ether is preferred. The chances of each particular patient under its use are probably slightly damaged, but the chances of the entire number are improved, simply because the surgeon is delayed less than by ether.

Ether has shown especially bad results in operations on the brain, for tumors, abscesses, depressed bone, in short anything that may produce increased intracranial pressure; in cases in which the kidneys are diseased or vulnerable,

and in cases in which prolonged irritation of the fumes of ether may cause pneumonia. In all these instances, chloroform is to be preferred to ether. In children, we know clinically that death almost never occurs under anesthesia, and thus, chloroform, if not safer than ether, is still permissible.

In obstetric practice, some discrepancy exists between recorded results and theoretical conditions. Very few deaths have occurred from anesthetics in the parturient, so few that it may well be questioned whether the ordinary accidental and practically unpreventable death rate of parturition has been exceeded, yet chloroform has been used almost to the exclusion of ether—we do not now refer to operations performed on the parturient woman—and to a degree usually considered the most dangerous, namely sufficient to weaken the vital resistance and voluntary control of the patient, yet insufficient to prevent reflexes from painful stimuli. In accordance with a prevalent belief which is not very well supported by experiments, ether is used by preference in most cases of organic heart disease, whether in the parturient or otherwise.

In estimating the significance of deaths during anesthesia, we must always bear in mind that the patient may be moribund, and subject to determining factors of sudden death quite apart from the physiological action of the anesthetic. Fear has caused many deaths, and this element is almost always present in the subjects of operation. The giving way of an artery, the development of an embolus, the failure of an exhausted cardiac or respiratory center, the latter occurrence of death from auto-intoxication due, perhaps, to kidneys that would have failed without the action of the anesthetic, the development of a pneumonia which was manifested simply after the ether and not on account of—that all these causes of death may cast odium on an anesthetic is shown by the occasional coincidence

of a death occurring at the time proposed for operation and when the surgeon had been delayed, by some unexpected circumstance, from administering the anesthetic.

The necessity of the horizontal position of the body during anesthesia is now well recognized, and the technique of stimulation in case of sudden failure of heart or lungs has been elaborated. A few points are, however, either not generally understood, or are disregarded. Reflex shock, in the partially unconscious patient, may be of fatal importance. Cocainizing the nostrils prevents that arising from the fifth nerve. Fear and apprehension should be allayed and, if possible, the patient should be anesthetized in a separate room, away from sights and sounds incidental to the operation. Too often, the operator is inclined to hurry the anesthetizer and to operate before anesthesia is complete. If there is enough sensibility of brain centers to cause visible reflexes in the muscles, there is enough to stop the heart or diaphragm, yet operators who teach this very fact will sometimes disregard it in practice. Pneumonia may be due to letting a thinly clad patient take cold, as well as to the specific action of ether.

Do not rub the patient's cornea to tell whether he is sufficiently under the influence of the anesthetic, blow in the eye instead. If breathing stops, pull the lower jaw forward, it is almost useless to pull on the tongue or to attempt to get out mucus with a napkin. Don't inject alcohol into a patient surfeited with ether, use small dose of atropine or a big dose (at least .003) of strychnine. Don't lean on the patient's chest; don't expect him to vomit up-hill, without choking; don't perform artificial respiration much more rapidly than normal breathing. These are some of the rules commonly overlooked, not in the lecture hall but in the clinic. And, finally, remember to study the patient's elimination and general nutrition before operation, if no emergency prevents.

Current Literature.

LACTIC ACID IN THE TREATMENT OF ENDOMETRITIS.—Ilkewitsch, of Moscow, (quotes the *N. Y. Medical Journal* from *Centralblatt für Gynäkologie*, October 30th), has satisfied himself experimentally of the truth of Prof. Sneguireff's statement as to the efficiency of lactic acid as a destroyer of pathogenic micro organisms in the utero-vaginal tract. A three per cent. solution, injected into the vagina, he finds, overcomes the odor that may be present in cases of leucorrhea, changes the color of the discharge from green or yellow to white, and may be used without danger in ambulatory practice and in cases of salpingo oophoritis. In certain cases, he thinks, the intra-uterine employment of a stronger solution may be substituted for the use of the curette.

TREATMENT OF PHLYCTENULAR KERATITIS.—Dr. J. Herbert Claiborne, of New York, made this the subject of an address before the Medical Society of Virginia (September, 1897), and we quote from the interesting report in the *Va. Medical Semi-Monthly* (Oct. 8, 1897) the following summary of his practical method of treatment:

Phlyctenular keratitis, as a rule, is a disease of childhood; it is usually associated with mal-nutrition; and is more frequently found in the lower classes. The treatment is constitutional and local; the former consists in improving the general health, if possible, by the administration of the iodide of iron, cod liver oil, calomel, and other tonics; personal cleanliness of the individual should be enforced, and especial attention given to the finger-nails; the prescribing of good, solid food should not be forgotten; the local treatment consists in hot or cold applications, the exhibition of atropine—one grain to two drachms of water—the use of yellow oxide of mercury ointment, the thorough cleansing of the nose, and the application of the solid stick of nitrate of silver to the orifice of the nose and to the rhagades of the outer canthus of the eyes.

EUCAINE IN A CASE OF ACUTE UVULITIS.—The following case is reported by Dr. Hal. Foster, Laryngologist to St. Margaret's Hospital, Kansas City, in *Langsdale's Lancet*:

On May 3, 1897, M. A.—A farmer from Atchison County, Kan., presented himself at St. Margaret's hospital. My attention was called to him by the house physician. He was unable to speak, being badly scared. He was 54 years old and a hard working farmer. His health had always been good, he had seven children. Several days prior to coming to the hospital he took a severe cold, for which he drank some very hot coffee. He noticed at the time that his throat was paining him. Several hours later the pain grew much more severe in the region of the palate. Early the next morning a physician prescribed a gargle, which failed to afford relief. The pain grew rapidly worse and the voice was lost; this of course frightened him badly. He immediately came to the hospital.

On examination I found the uvula to be enormously swollen, elongated, causing constant cough; there was some suffocation, as the tonsils and arches were concealed by the greatly distended uvula. He was still unable to speak, the aphonia was hysterical. There was a slight pain which extended to the right jaw.

The patient was very much excited; his lawyer had made his will for him the day before, and he was convinced that death was near. After I had examined him carefully, he was informed that he was in no immediate danger of dying and that a slight operation would cure him. This statement helped him greatly.

A 20 per cent. solution of eucaine was applied directly to the inflamed organ. After waiting 15 or 20 minutes in order that the eucaine might have ample time to act, a small portion of the organ was removed by the galvano cautery snare. There was no pain and only a few drops of blood lost during the operation. The aphonia soon left and he was able to

talk as well as usual. The cold was undoubtedly the cause of the trouble in this case. Great care was exercised not to remove too much, as there is always considerable shrinkage in these operations, even after a small portion has been removed.

This patient was under my care for 10 days, after which time he left the hospital entirely well. In doing a uvulotomy I always use the cautery snare. By doing so there is no pain, and as a rule no hemorrhage follows it. It is well to use a soothing gargle or spray. The local use of ice rapidly removes all inflammation.

In this case the trouble had so badly frightened, and made such a profound impression on the mind of the patient, that a complete aphonia had resulted.

In even a trivial operation like uvulotomy, the operator should use great care to cause no pain or hemorrhage.

TREATMENT OF EPILEPSY.—Dr. Alex. L. Hodgdon, of Baltimore, concludes his paper on Epilepsy, read before the Medical Society of Virginia (*Va. Med. Semi-Monthly*, Oct. 8, 1897) with the following outline of measures adapted to cases in practice:

How shall we treat epilepsy? As I said before, in my article on "Preputial Epilepsy," there is apt to be an irritant. Then what is the rational procedure? Is it not to try to find the irritant? If it be phimosis, perform circumcision; if it be a teething infant, administer suitable doses of bromide of soda, for it may be that a lifetime of misery is produced by neglected convulsions in infancy. If there be irritable gastric nerves (which we have every reason to believe produces many cases of epilepsy), then give subnitrate of bismuth or Fowler's solution in proper doses; or if nothing else will relieve, and with the full consent of the patient (for it may produce staining), administer therapeutical doses of argenti nitratis. Probably the most generally useful drug in the treatment of epilepsy is bromide of pot-

ash, which I have administered in doses of half a drachm three times a day, and have also given nitroglycerine gr. $\frac{1}{100}$ three times a day. In cases of nocturnal epilepsy, I consider it good practice to give chloral hydrate in proper doses at bed-time. There are many other drugs which have been used, such as cannabis indica and opium, but I believe the bromides and chloral are the sheet-anchor in this very troublesome affection. Nitrite of amyl should be prescribed more generally in cases having a distinct aura; it should be used by inhalation, the little glass pearls constituting a convenient method for its administration. Of course, the diet of the epileptic should be regulated, particularly in cases of gastric epilepsy.

ANTIPIRETICS IN ACUTE ENDOCARDITIS.—In a lecture on Acute Endocarditis, published in *The Chicago Clinical Review* (December, 1897), Dr. Joseph M. Patton, Professor of Internal Medicine, Chicago Polyclinic, says of the antipyretics (which it may be advisable to use to control the rise in temperature in cases where the fever is severe): "Antipyrin is too dangerous. Acetanilid and phenacetine are somewhat safer, especially the latter, when given in small doses (three grains) in connection with quinine. There is less depression and perspiration, however, following the use of lactophenin than phenacetine, in conditions of this kind, and I would regard it as preferable to other remedies of this class under these circumstances, either alone or in connection with quinine. Five to seven grain capsules may be given every two or three hours, as necessary."

THE RELIEF OF OCULAR PAIN.—In a practical review of the available measures for relief of ocular pain, including hot water fomentations, ice cold compresses, leeching, counter irritation, anesthetics and analgesics, the *Atlantic Medical Weekly* (editorially, Nov. 20, 1897) says: "Of them all (referring to coal-tar derivatives) lactophenin is probably the safest and is

quite as efficient as any. In ten to fifteen grain doses the pain of an iritis is sometimes relieved for hours, at any rate long enough to allow the patient to get needed sleep. In glaucoma secondary to a dislocated lens where all the effect of an iridectomy had been produced by the injury itself, this drug was the only one save morphia which gave relief. The pain of herpes zoster ophthalmicus, which is so persistent and severe, was also relieved in great measure by this drug in one case where morphia failed to produce any alleviation of the suffering."

THE INTERNATIONAL LEPROSY CONFERENCE.—From a very excellent report of the proceedings, by a special correspondent, in the *Medical News* (Nov. 6, 1897), Cattell publishes this terse abstract in the *Internat. Medical Magazine*:

At this conference, which closed at Berlin, October 16, the reading of papers was not allowed; instead, communications were received and printed before the meeting and were placed in the hands of the members in a volume of preliminary transactions. As a result, the sessions were well attended, and lively discussions took the place of the usual dreary reading of long essays. There was practical unanimity as to the specificity of the bacillus of Hansen. Some startling facts were reported as to the number of bacilli given off by lepers. Sticker, of Giessen, had observed an abundance of the bacilli in the nasal secretion of 140 out of 153 lepers examined; they occurred sometimes even where there did not seem to be any leprosy lesions in the nose. Weber, of Halle, had found an enormous number of bacilli in scales scraped from the skin, many of which were about ready to drop off; he had detected them in the sweat, the saliva, the tears and the hair. At Neisser's clinic Schäffer had calculated that a leper gave off 150,000 bacilli per hour. A cover-glass held before a patient while he read aloud was covered with bacilli, and they reached a

distance of a metre and a half from the leper. Thorough antiseptics of the mucous membranes with mercury bichloride and silver nitrate did not cause them to disappear completely, though it greatly lessened their number. Petersen and Jeanselme considered the nasal secretion diagnostic in most cases, often at an early stage of the disease. Professor Virchow believes that mutilations seen in certain figures on pre-Columbian pottery point to the existence of leprosy on the American continent before the Spanish discoveries. Though Unna insisted that lepra bacilli are never intracellular, specimens were exhibited which seemed to prove that the bacillus may be intra- as well as extracellular. Nearly all agreed that heredity counts for nothing in the spread of the disease. The decision of the Royal College of Physicians of London, thirty years ago, that leprosy is not contagious, was completely reversed, though there were a few non-contagionists from the East, who believe the disease to be hereditary. Emigration is undoubtedly the usual method of extension of leprosy. As to serum-therapy there was very little said that was encouraging. Beisner has effected cures with chaulmoogra oil combined with electrolysis of the tuberculous leprosy patches. The general opinion seemed to be that some combination of iodine and mercury used intermittently constitutes the best treatment. All agreed that isolation, as in Norway, is the ideal means to eradicate the disease.

HYDRIODIC ACID SYRUP IN RHEUMATISM.—We quote the following clinical note from the *Phila. Polyclinic* (Nov. 13, 1897), with a hearty endorsement of the use of this syrup in place of other iodine preparations whenever possible:

In a case of chronic rheumatism characterized chiefly by severe pain in both hips and thighs and extreme emaciation, Dr. Rugh prescribed syrup of hydriodic acid in dram doses three times daily, but without effect. The dose was then doubled,

and in a week's time the pain had entirely disappeared, and two months later had not returned. Besides this, strychnine sulphate (grain $\frac{1}{100}$, three times daily) was given, and about twenty pounds in weight were gained in ~~the~~ weeks. Pain had been present almost continuously for the previous four or more months, and yielded to nothing except morphine in decided doses; in fact the anti-rheumatic remedies had nearly all been tried, but without effect. Iodin in other forms was used, but so seriously deranged the stomach as to make its discontinuance necessary. There remains a fibrous ankylosis of the right hip and contracture of the adductor muscles of the left thigh, which will be remedied by operative measures later.

SUDDEN DEATH.—Heller reported a case of sudden death in a healthy child. The child, which seemingly was perfectly well, only somewhat pale, had just before its death taken a drink with much enjoyment. The nurse had for a short time left the child and found the latter dead on her return. The autopsy did not show the slightest cause to which death could be attributed. Dr. Cnopfsen mentioned that in a child which suddenly died in his practice, an immense accumulation of fecal matter was found at the autopsy. Death in these cases was due to auto-intoxication from the intestine.—*Pediatrics*.—*Phila. Polyclinic*, Nov. 13, 1897.

THE DOSE OF DIPHTHERIA ANTITOXIN.—Dr. J. Madison Taylor, in the *Phila. Polyclinic*, Nov. 27, 1897, shows the value of the immunizing dose and clearly explains the curative dosage in the following:

The experience of those who have most largely and carefully used the antitoxin or serum therapy in diphtheria leads them to adopt certain clearly defined and simple rules for its administration. And first, since there are no dangerous and few and rare disagreeable after-effects of its injection, and since it is a rule established by all observers that the best results follow

any sort of treatment in this disease when begun as early as possible, hence it is wisest to give the antitoxin at once in a case which excites suspicion. No harm can be feared and much valuable time is gained by giving without delay, in acute anginas even remotely simulating diphtheria, a full curative dose of antitoxin.

Again, the doses formerly given often failed of utility because totally inadequate and not repeated frequently enough. This we have had occasion to abundantly verify since we, along with numberless others, have learned practically to place increasing confidence in the remedy and decreasing fears of possible injurious effects. Not only is this true for curative but for immunizing doses. The dosage is given in what is termed antitoxic units, and this should be the method without regard to the quantity of the fluid. Immunizing doses should not be less than 100 units, and 200 to 300 units is enough (according to our present lights) for any case and is operative for about one month. Dr. F. G. Morrill finally determines the limit to be about three weeks.

It was at first feared to use immunizing doses of antitoxin in any but the moderately robust and vigorous, but Dr. F. Gordon Morrill's experience in the Boston Children's Hospital disproved this. There the disease became endemic and immunization was practiced on all but the feebler cases acutely ill or in recent operations, etc. And still cases broke out occasionally. When the rule was adopted to give antitoxin to each and every case, the disease utterly ceased and no harm whatever was caused by the remedy in several thousand injections.

Behring's rule for immunization is 100 units to a healthy individual of about 120 pound weight; if the person be, however, constantly exposed to the disease this is increased or repeated till, as in a case of Dr. Rosenthal's, 600 units were given to a poor pregnant mother in charge of a child suffering from diphtheria, and she subsequently was confined in that same

room without ill effects. The dose of 100 or 200 units may be repeated once a week to those continually exposed, but this is not necessary, though once in two weeks is safer than to wait till the end of a month.

The curative dose of antitoxin for a child from two to five years old, with suspicious symptoms, is about 1,000 units. If the disease is well marked, use 2,000. If at the end of six hours the case is in the same condition, repeat the dose of 2,000; if it is worse, use a dose of 3,000; if much better, wait till twelve hours have passed, then if in the same condition, repeat 2,000, or if ever so little worse, 3,000 or 4,000 units at a dose. Then wait six or twelve hours, and repeat again if the same conditions maintain—at six hours, 3,000, if worse, 4,000; if better, wait till twelve hours elapse, and give 3,000 or 4,000 units, making the third dose in a favorable case, or the fifth dose in an increasingly ill case. These three doses, or at most five, will usually be sufficient.

When the symptoms grow steadily worse, the dose may be repeated every six hours, increasing by 1,000 at each injection, thus—2,000 units in six hours; 3,000, in six hours more (total, twelve hours); 4,000, in six hours more (total, eighteen hours); 5,000, in six hours more (total, twenty four hours); 6,000 units at this last dose—continuing to thus increase if necessary.

Rosenthal calls attention to a sign, which he regards as pathognomonic of improvement, which he describes as a blood red line surrounding the diphtheritic patch in the throat, showing a demarcation between the diseased and healthy areas. The effect of the serum is to lower the temperature, hence, if after the first dose this still keeps high, the dose may be repeated in six hours, or all the more promptly and increasingly.

HAY FEVER.—Dr. Edmund W. Holmes read a paper on Hay Fever before the Philadelphia County Medical Society, Oct. 13, 1897 (published in the *Phila. Poly-*

clinic, Nov. 6, 1897), which covers the subject fully and most interestingly, and is undoubtedly a valuable and instructive contribution to the records of the Society. The author detailed the most approved methods of treatment, and concluded with the following unique paradoxical bit of "drug nihilism":

For those afflicted by the disease who hope to outgrow it, I may say, although I have known one case of a cure by a trip to Europe, in a gentleman of sixty; another sufferer, who died at the age of ninety-four, had had the disease every year for fifty years.

Personally, with regard to the treatment, with all due respect to our modern rational and experimental therapeutists and to those of our rhinologists who gouge and burn and saw, in spite of all the remedies that I have recommended for others—for myself when an attack comes on—as it has for twenty-two years, and probably will for twenty-two more if I live—I shun drugs and drug stores and specialists, and flee like a bird to the mountains.

THE ACTION OF PHOSPHORUS IN CHLOROSIS AND ANEMIA.—Dr. Angelo Casati (*Gaz. degli Ospedali—Amer. Jour. Med. Sci.*) notes that failures in the use of iron are frequently met with in these conditions, and these appear to be dependent upon the absolute loss of appetite. The restoration of the appetite is brought about by phosphorus, and then sufficient iron can be absorbed in form of the ordinary medicinal preparations or in the foods which contain iron, as meat, eggs, lentils, and red wine. The best method of administering the remedy is as the phosphorated oil in gelatin capsule, each containing one sixty-fourth of a grain of the drug. The treatment is begun by giving one capsule each day, and every second day increasing by one capsule until five are taken each day. Then the dose is diminished in the same way until the initial dose of one capsule is reached. If the appetite is not permanently benefited after ten days, the treatment is repeated.

The American Therapist.

A MONTHLY RECORD OF MODERN THERAPEUTICS,

WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

VOL. VI.

NEW YORK, JANUARY, 1898.

No. 7.

Original Articles.

*MILK—ITS PRODUCTION AND USES.**

By Dr. WILLIAM F. BARCLAY, of Pittsburg, Penn.

In the preparation of the paper of which the following is a synopsis, I encountered more difficulties than in the preparation of any paper that I have ever written to be read before a medical society. My attention was first called to the subject by being called upon to treat a large number of persons that had been poisoned by the use of impure milk.

I started out in the first place to inquire of the milk dealers, but found it impossible to obtain any information from them. I next went to those firms who are supposed to prepare the so-called Pasteurized milk; also went to those institutions or establishments where they prepare sterilized milk and the different preparations of milk, with which you are all familiar, and which are sold to consumers. I was unable to learn anything about the processes adopted, these people informing me that it would be an exposure of their methods, which, of course, were secrets, and I became rather discouraged. The next thing I did was to associate myself with the Pennsylvania Jersey Cattle Association, and through my association with these people I learned of the many things that enter into the production of pure milk. I learned that the milk of the Jersey cow was the richest and the best, also that it

was the most nutritious. From that I determined that dairy cows should be of this variety. In studying the subject the question came up very often as to the diseases that affect cattle. In inspecting the dairy farms my attention was called to many cows that were suffering from retained placenta. I inquired what effect that condition had upon the milk, and learned that the natural condition of the milk was very much changed, and that, if a dairyman was honest, the milk was regarded unfit for human use during that period. I inquired if it was the usual practice to discard milk from cows that suffered from septic poisoning from retention of placenta, and was informed that the usual practice was to use all milk three days after the birth of the calf. I learned that many animals suffered from diseases of the udder which impaired the milk and rendered it unfit for human use. To my mind the most interesting part of this study was the subject of tuberculosis. I learn from report of the State Veterinary Surgeon, of the State of Pennsylvania, that 38½ per cent. of all animals he had examined suffered from tuberculosis in some form. Of course, many of the animals were in advanced stages of the disease.

As to the physical condition of the milk drawn from tuberculous animals and the dangers arising from it, I am free to admit that the question is not satisfactorily settled in my mind. I tried to learn whether the milk from tuberculous cattle was injurious, and learned that where the udder of the cow was affected by the disease, that the milk was poisonous, and that it was very injurious to health and life. It was a question whether the disease impaired the milk and rendered it infectious where

* Synopsis of paper read before the Mississippi Valley Medical Association at Louisville, 1897. Delivered before the Louisville Clinical Society and contributed exclusively to THE AMERICAN THERAPIST.

the disease had not affected the udder. I learned by careful examination of milk from cows that suffered from the disease that the natural physical condition of the milk was impaired. That is, that the solids were very largely decreased. As all of you know the solids of good milk should be not less than 12 to 13 per cent. I learned by examination of a large number of samples of milk that the percentage of solids of the milk drawn from cows that were tuberculous was not more than 7 per cent. This was about the average. From this it is easily seen that the natural physical condition of the milk was very much impaired, and we would arrive at the conclusion that its nutritious properties were impaired, and no doubt the milk was injurious to health.

To me one of the most interesting things I learned was in the study of cattle that were kept in dark, illy-ventilated stables and barns. In testing milk from such cows, I found that it was universally wanting in the natural constituents of milk. It was low in solids, and animals that were fed upon it were poisoned and many of them quickly died.

If you have not looked into this matter, I can say to you truthfully and honestly that in the city of Pittsburg there are to my certain knowledge at least fifty stables where cattle are kept underground, and the physical condition of the animals is such that the milk should not be used. I presume the same condition exists here and in all large cities. These cattle are usually fed upon refuse matter from breweries, the refuse from hotels, and in many instances from private dwellings. I also learned that these cattle are often fed upon refuse matter from starch factories. The cheapest food stuff was used and there was no attention paid to the water afforded the animals. You possibly do not know, unless you have looked into this matter, but I can inform you, that a healthy cow will consume in twenty-four hours from sixty to one hundred gallons of water. I looked into this matter very

carefully and learned that from the water supply the milk was very largely impaired. Epidemics of typhoid fever were reported in various places, and I have no doubt the reports were correct, that they were caused by cattle drinking from stagnant pools that were contaminated by filth in every way. I suppose there is nothing more important in the production of pure milk than the furnishing to the animals of pure water. It would seem to me, from what I can learn, that dairy cattle should not be allowed to drink water that is not obtained from springs or artesian wells.

In visiting the different dairies, I only found two that seemed to me to approach that which a dairy farm should be. One was that of Mr. James S. Armstrong. Mr. Armstrong is a man who has very carefully studied this subject. All his cattle had been carefully tested, and were pronounced free from tuberculosis. His stables were kept clean and carefully fumigated once or twice a week with formaldehyde. The barns in which his cattle are kept cost five thousand dollars. The floors are all made of cement, the walls are carefully cemented, ventilation is carefully considered, the cows are all kept very clean, and are removed to what is called the milking room before the milk is drawn. If the udder is dirty or filthy, it is carefully washed before the milk is drawn; the vessels used are carefully sterilized in every way, and examination showed the milk to be pure and up to the required standard.

The next farm that I visited was one owned by a member of the medical profession, Dr. M. E. Griffiths. He has about 150 cows, all Jerseys. They are housed, and the precautions used as to feeding, milking, cleansing, etc., are similar to those of Mr. Armstrong. Dr. Griffiths goes a little further, however, and when the milk is drawn it is reduced to a temperature of about 52 degrees, and is at once put into glass jars with glass stoppers. This milk is sold in the city of Pittsburg at forty cents per gallon. Hence

you see that the production of pure milk is a very profitable business. The milk is shipped to Pittsburg twice per day, and Dr. Griffiths has provided wagons for transporting the milk to his customers, the wagons being provided with ice-chests. In every way, as far as my knowledge goes, this farm is the nearest approach to that which a dairy farm should be of any that I found.

If you go through the country and carefully study the production of milk, you will discover that nothing in the food line is dirtier or filthier than milk. I will say to you that the food provided for the cattle on Dr. Griffiths' farm is matured grain, and that all water is taken from an artesian well 300 feet in depth with a driven pipe 80 feet to shut off all surface water. Only matured grain and fodder is used, no refuse material of any kind is given to the cattle.

This subject, of course, has so many various features that require careful consideration in the discussion of pure food that it is only possible for me to suggest a few things that will direct your attention to the production of pure milk.

I do not believe the so-called sterilized or Pasteurized milk is fit for human use. I discovered that where sterilized or Pasteurized milk was fed to animals that they became sickly and in a short time died. I also discovered that scorbutus had been caused by the use of sterilized or Pasteurized milk. You are all very well aware that we have what is called condensed milk. As far as I can learn condensed milk is the most injurious of any form in which we have milk, except that which is taken from diseased animals. There is another preparation, as you know, which is very often used and often prescribed by physicians, called malted milk. My impression is that this is open to the same objection that condensed milk is. Everyone, who has practiced medicine for any considerable length of time, knows from his own personal experience that there is nothing more difficult than the selection of food

for infants. I believe, if we carefully consider the production of milk, if milk was produced as it should be from healthy animals and where proper food had been used, if the milk was carefully drawn and carefully prepared for market, my impression is that cow's milk is next to mother's milk and best for the nourishment of infants and children. But if you will carefully go over this subject, as I have done, I doubt if any intelligent physician would recommend milk unless he has definite knowledge of the source of supply.

I expect, the paper I have written on this subject will bring out many others, and have no doubt but when this subject is carefully studied and understood that sanitary supervision and protection will be used, and that we will in this way be able to protect the people from one of the greatest impositions in the pure food line that we have. We have of course our sanitary laws, we have our inspectors, but I can say to you that as far as I have studied the subject that the sanitary inspectors, especially those who have been appointed by politicians, are a farce. It really amounts to nothing. The only way this subject can ever be brought fully before the people, and the people be protected, is by having careful, conscientious men appointed, who will be paid by the State and who will discharge the duties incumbent upon them fairly and honestly. I found in a long and interesting talk with the pure food officer of the city of Pittsburg that he only tested the milk for water, and you all know that water is not injurious if it is pure.

Another point, which I had overlooked, is, I believe, I was the first to suggest the treatment of tuberculosis in the animal. Tuberculin has been applied, and it has been found that it is curative; where the animals that are tuberculous are properly isolated and treated with tuberculin they apparently get well; and instead of the State of Pennsylvania paying out, I think, about forty thousand dollars per year for condemned stock, the amount utilized for

the purchase of tuberculin is much less. The State pays \$30.00 per head for all cattle that are found tuberculous and are killed, and that means a very considerable loss to the owners. I remember in one instance where a breeder paid \$1600.00 for a fine Jersey cow, and upon examination she was found diseased and condemned, the owner receiving therefor only \$30.00. The cattle that have been treated with tuberculin have been carefully tested afterwards, while living and after having been slaughtered, and no evidences of tuberculosis have been found. It is much cheaper for the State to provide proper treatment for the disease than to pay owners for the stock ordered killed, and the treatment appears to be successful when the disease has not advanced too far.

So far as my studies have gone, it seems clear that animals in their wild or native state are not affected with tuberculosis; the disease seems to be consequent upon domestication. Cattle kept in close quarters in cities are very much more prone to tuberculosis than those which are not so confined.

In reply to the question as to whether the bacillus tuberculosis is found in the milk of affected cows, I will say that it has not been found, except where the udder is involved in the tuberculous process. I am safe in saying that where the disease has advanced so far that there is involvement of the udder, you will always find the tubercle bacillus.

Another question, which presents itself in this connection, is, do animals acquire the disease from the human subject or *vice versa*? My impression is that animals contract the disease from the human subject. I do not believe, if animals were kept away from the human family that they would ever develop the disease. This, however, is only an opinion, but it seems to me reasonable when we consider that animals in their wild state, as far as my observations have extended, are never tuberculous, and only become so under the influence of domestication.

The question has been asked whether the Jersey stock is not more liable to tuberculosis on account of their high breeding, etc. So far as I know they are no more prone to the disease than other varieties. Tuberculosis, as already stated, is much more likely to develop in stock kept in cities congregated together in close quarters than elsewhere. This may be due to the large number of people in cities, many of whom suffer from tuberculosis.

One interesting thing, which came to my notice in studying this question, was that in testing a large herd of fine Holstein cattle owned by a sect of people known as the Economites, which was supposed to be one of the finest herds in that section of the country, the State examiner found the majority of them tuberculous. It was supposed that these people had exercised unusual care in housing and feeding their stock, and in every way caring for them in such manner as would be conducive to the production of pure milk.

If the authorities in Kentucky have not considered this question, I think it would be well, and you will find it eminently wise to call attention of the State officials to it, and if the State examiner would make tests of the various cows used for milk supply, he would discover that far more cattle are tuberculous than you expect.

DISCUSSION.

Dr. W. F. Boggess.—I was under the impression that Jersey cattle, owing to their surroundings, etc., were very much healthier in their native heath than in this country. Jersey cows are very extensively used in Kentucky for milk supply.

I think, Dr. Barclay's paper is well-timed. The question of pure milk supply is one of vast importance not only to physicians but to every inhabitant of cities. During the last winter and spring I had several patients among dairymen, and in that way had occasion to be present mornings and evenings occasionally when the milking was being done. After witnessing the performance several times,

I became so disgusted that I have quit using milk entirely. The cows were kept in little houses or sheds which were filled with filth; the milkmen wore rubber boots and waded around in the filth; the cows' udders were never washed before being milked; the milk was drawn into buckets and then put into a large tank, thence decanted into the wagon cans; a large amount of filth of necessity found its way into the large tank, and when the milk was decanted off into the wagon cans, an inch or more of filth remained in the bottom of the tank.

I am quite sure, in feeding infants we can produce the nearest approach to mother's milk by proper handling of pure cow's milk, but our inability to procure pure cow's milk has forced us to make use of prepared infant foods, and especially is this true in the larger cities. If we would secure pure cow's milk which contains the proper amount of cream, casein, etc., and make the proper dilution with pure water, or lime water, or something else to prevent the coagulation of the casein, we can produce a food for infants which is infinitely better than any of the artificial foods. We know, however, that the casein of cow's milk is broken up into quite large lumps, while that of mother's milk is separated into small floculi, and digestion of the latter is much more readily performed.

Dr. Leon L. Solomon (present by invitation).—With reference to the nutritious qualities and digestibility of sterilized or the so-called Pasteurized milk, milk which has been heated up to 155 to 157 degrees, I have, during the past winter, spring and summer, made some experiments at the Children's Free Hospital, where I have had a considerable number of cases of intestinal disturbances in children. It has been my observation that pure milk, *i. e.* uncooked milk, milk to which no heat has been applied, mixed with a suitable quantity of pure water, depending upon the age of the child, was more nutritious. Babies were weighed

from day to day, and they seemed to gain more rapidly than when cooked milk was given them. Not only this but the stools contained fewer coaguli and were ordinarily not so fetid. A series of experiments was undertaken by me with little children, giving some of them pure milk, others Pasteurized milk, and still others boiled milk, and my observation has been that pure milk properly diluted is productive of much the best results.

Dr. P. F. Barbour.—There is nothing that concerns pediatricians more than the quality of the milk that is to be furnished the babies. Fortunately in Louisville we have not had to contend with some of the difficulties mentioned by Dr. Barclay as being met with in Pittsburg, *i. e.* in our dairies here the cows are usually kept largely in the open air. The larger dairies here are connected with farms, and the stock is supplied with good running water and grass for food. It is impossible to say what care is exercised here in keeping filth out of the milk while it is being drawn and transported to market. We have not all had the privileges enjoyed by Dr. Boggess of visiting the dairies during milking time, but it is safe to say there is room for improvement as regards cleanliness.

I was a little surprised to hear Dr. Barclay say that Pasteurized milk was the cause of scurvy. There have been a number of cases reported of scorbutus in infants due to the use of sterilized milk, and sterilized milk of course is not Pasteurized milk. Northrup has recorded a number of cases of scurvy due to sterilized milk, but I am aware of no case being recorded due to Pasteurized milk.

I agree that it is better to use pure milk uncooked; of course being heated to proper temperature (about body heat) before being given to the child. I believe that Pasteurization or sterilization of milk is a disadvantage, but where we are unable to procure pure milk from dairymen, Pasteurization offers us one of the few safeguards we have in the feeding of in-

fants. I do not believe that Pasteurization injures the milk as much as the germs, cocci, etc., that are present in impure milk. I cannot say as much for sterilization; I believe that sterilization renders milk less fit for use.

Condensed milk has also been recorded as the cause of scorbutus, but I believe condensed milk offers in certain classes of cases the only form in which milk can be digested. I have met with cases where I have modified the milk in every known way according to the methods recommended by Rotch, and have been utterly unable to get the casein of the milk digested. It seems that the casein of condensed milk is more digestible than the casein of other milk. Just why this is true seems not to have been determined. I do not advocate the use of condensed milk in all cases, but there are circumstances where it is the only form of milk that will agree with the child.

As to the character of cows giving the milk: It has been my experience in the feeding of infants that Jersey milk is not the best. It contains more of the nutritive properties, it contains casein and fat in larger quantities than ordinary milk, but Jersey milk I have found to be less digestible in infants than milk from other cows that were not so highly bred as Jerseys. One reason for this is probably that owing to the high breeding, the consequent higher irritability of the nervous system of the Jersey cow may give us a different character of the albuminoids, etc., which make the Jersey milk more indigestible in infants. I have watched this matter closely, and pure Jersey milk does not agree with all infants.

I am also surprised at Dr. Barclay's statement that the Jersey cow is not more susceptible to tuberculosis than other grades of stock, because it has been my opinion from a large amount of reading on the subject that the Jersey cow, on account of high breeding, was more prone to tuberculosis. The subject of tuberculosis in cattle has lately attracted a great

deal of attention owing to the use of Koch's tuberculin as a diagnostic agent. At first it was thought we had found the cause of much of the tuberculosis in children, but later investigations have shown that it is a rare thing for the child to have tuberculosis originating in the intestinal tract. He says that in only a very small percentage of cases can it be shown that tuberculosis primarily affected the intestinal tract. This has been substantiated by the fact that the germs of tuberculosis are not communicated to the milk from the cow unless there is some tuberculous focus in the udder.

There are other diseases to which cows are subject that ought to be looked after also. There is no question whatever among those who have seen much of infants upon mother's milk that mental influences and the presence of certain diseases of the mother have a remarkable effect in changing the character of the milk; yet we cannot determine what that change is. A patient told me that some years ago he tried to raise sheep, and it often happened that sufficient milk was not furnished by the mothers and they had to substitute cow's milk, that during the rutting season or shortly before the birth of the calf, that cow's milk could not be digested by the young lambs, and when it was fed to them many died. It seems to me we should look carefully into the condition of our cows on account of the influence thus exerted upon the milk. It is a pity, we are not able to find out just what changes are produced in the milk by nervous influences, menstruation, etc. We know in the human that during menstruation or gestation the quality of the milk is markedly altered, so that it is injurious to the child, a diarrhea being often set up during the mother's menstrual period. Anger, fright or intense excitement will so change the milk sometimes as to cause the death of the infant. Similar conditions may produce like effects in cow's milk though perhaps to a less degree. Milk that comes from a herd of

cows is therefore much better and safer than that which comes from a single cow. A single cow might be the subject of excitement, fear, disease, etc., all of which would affect the milk and be injurious to the child, whereas mixed milk from a herd has nearly always an almost uniform constitution.

Dr. Leon L. Solomon (in answer to a question propounded by Dr. Barbour).—I believe, experiments have shown that milk from a woman who is menstruating, or who is under the excitement of sexual intercourse, is poisonous, that it not infrequently produces diarrhea and other troubles in the child. I have been paying especial attention to this point, and have taken the pains to examine milk after sexual intercourse in one or two cases where the husband was away from the city returning only at stated intervals, and following sexual congress, there was the next day, and for several days, a diarrhea in the child. I took pains to examine the milk and found it to contain large quantities of colostrum. It has been proven that colostrum is nothing more than epithelial cells in a condition of fatty degeneration, and I want to suggest a theory which seems to me rational: Is it not probable that the congestion of the uterus, ovaries, and tubes brought about by the sexual act, is also accompanied by a corresponding congestion of the mammae, and when this congestion is kept up for any length of time, there is occasioned a rapid exfoliation of the epithelial cells, producing a milk, which causes the diarrhea of the child?

Dr. Barclay (closing the discussion).—The paper to which I have referred will be published in full in the *Medical Mirror*, St. Louis, and I shall be glad for any of you who care to do so to read it. I have simply endeavored to call attention to some of the few things that I learned in my investigations. A great many points to which attention has been directed in the discussion are important, and I feel sure if you will take the time to look into

the subject thoroughly, you will find there is more in it than at first appears. I was surprised at the many disgusting things encountered in a study of this subject, but have not thought it wise to include them in my paper nor in the synopsis given you. Some of them have been mentioned by those who have discussed my remarks. It is true that a cow should always be taken into the open air or into a room properly prepared for drawing the milk, and when this precaution has been observed, if the udder has been cleansed, and if the vessels have been sterilized, you will be surprised to note the difference in the quality of the milk. If I could give you a jar of the milk produced at Dr. Griffiths' farm, you would be amazed at the difference between it and the milk that is ordinarily sold for consumption. The milk that is produced on his farm if put in an ice-chest and properly cared for will remain pure and sweet for from forty-eight to seventy-two hours in the warmest weather.

CHRONIC RHEUMATISM.*

By THOMAS HUNT STUCKY, M D., Ph.D.,
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Clinical Medicine in the Hospital College of
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GENTLEMEN:—This patient E. H., aged twenty-five years, occupation peddler, appears before us this morning suffering from pain in the temporal region of the head; light irritating to the eyes; pain in the left ankle and in the right hip. He gives a history of rheumatism of four months standing; suffers somewhat from insomnia; appetite good; no evidence of gastro-intestinal derangement; joints swollen; pulse 100 to the minute, full and tension marked; some tachycardia and rales are heard in the chest. There is a history of chancre on the penis three months ago, during the attack of rheumatism; no eruption, no sore mouth or other

* Clinical Lecture delivered at the Hospital College of Medicine, and contributed exclusively to the AMERICAN THERAPIST.

characteristic symptoms; has taken no medicine for syphilis, but has been taking medicine, he says, for his rheumatism.

These questions are asked the patient, because among a certain class or element, those seen in clinics as well as outside, it is of the greatest importance to get as nearly as is possible the cause of the disease, or that which is the greatest factor in its production. We readily recognize the probability of a patient leading the life that Mr. H. does, that of a peddler, being exposed to all kinds of weather, and possibly to the deprivation of a great many of the necessities of life, such as would be conducive to proper hygiene, diet, clothing, etc.

We recall the three theories that predominate in the cause of a condition such as he suffers, *viz.*: uric acid, lactic acid, and nervousness, the theory of disturbed metabolism. In the didactic course you will no doubt recall the fact that the position was taken by the chair that the predominance of opinion as borne out by clinical experience seemed to be to the establishment of the metabolic, or disturbance of metabolism, theory. We also recognize the fact that gonorrhea and syphilis are important factors in the production of a condition simulating rheumatism, which, I believe, to be entirely septic in character. I believe that the so-called gonorrheal rheumatism is a septic rheumatism, and those forms of rheumatism following syphilitic infection are entirely due to a septic condition, just upon the same principle that we have rheumatism following acute destructive processes, such as typhoid fever; in septic conditions, such as abscesses, diphtheria, scarlet fever, etc.; where there has been a systemic infection, we have rheumatism as sequella, and such cases, I believe, are due entirely to the septic condition. Take cases of abscesses as they occur in your practice, take buboes, if you choose, as an illustration, where probably pus has burrowed along into the groin and has gotten low down into the fascia, has been pent

up, a great deal of sloughing ensues resulting in a septic condition, a septicemia, followed by rheumatism, or a condition simulating rheumatism, or of a rheumatic character.

Now the question comes up, why might not this be a co-existent condition, where rheumatism and chancre, if it was a chancre, came together? It might have been entirely co-existent. I might mark that point by asking the patient what he had been taking. Sometimes after taking mercury, especially if it has been pushed largely, we have a great many constitutional pains, muscular in character, without swelling of the joints, which have been called by the older writers mercurial rheumatism. This I am inclined to doubt very much.

In this case we find that the spine of the tibia is perfectly smooth, with no evidence of marked swelling now. There is severe pain in the hip about where the great nerve leaves the joint. He says that his bowels act every day, loose, appetite good, no headache. Has been a heavy drinker, but says he has not been drinking anything for the last three or four months.

Inspection shows slight bulging in the right hypochondrium. You will notice, especially those sitting to my right, that the ribs have the appearance of being elevated. The question might come up with this irregular history, with the absence of any inflammatory condition, with wandering pains such as this patient describes, whether or not there is a condition of lithemia, so-called, or might there not be some hepatic condition which would account for the imperfect elimination, the absorption of which might produce these pains simulating rheumatism. The joint evidences, while not entirely negative, are not sufficiently positive to attribute it entirely to the uric acid condition. The liver is not materially enlarged, there is no marked evidence of cirrhosis which is taking place, it occupies the normal space, the edges of the liver

border are smooth, he shows no evidence on the skin of any positive syphilitic lesion, although we see a few little spots which are slightly copper-colored in character. The spleen is normal in position and about normal in size. Examination reveals nothing indicative in the intestines, in fact nothing abnormal except probably a condition of flatulency which is not very marked. Tongue flabby, not indented, rather the tongue of imperfect elimination. Eyes sclerotic, slightly tinged, yellowish, mucous membrane of same being injected. We find the action of the heart, which was at first quick, has now become slower, the acceleration being probably due to the fact that he was being examined. His pulse is now 88 to the minute, a difference of 12 beats since our first observation, simply an evidence of examination which very materially affects some people.

The classification of this condition is exceedingly difficult. I believe it should properly be classified as chronic rheumatism, though it may not be a true rheumatism, yet, I think, it is entirely due in this case to defective elimination. I further believe that alcohol is the prime cause; when you take into consideration that quite a large amount of it has been consumed by this patient, this idea seems reasonable. It is true that he is young, robust, has led an active life, and elimination is necessarily much greater and more satisfactory than in those who lead a sedentary life.

The next question that arises is the proper treatment in a case of this kind. Should we rely upon those agents which we believe assist in eliminating uric acid, such as the lithia salts or salicylic acid and its combinations, or should we attempt elimination by any other means? I believe a case of this kind does not yield as readily to elimination by means of salicylates and lithia salts as it does by means of hepatic stimulation. Elimination by means of the gastro-intestinal tract in these cases is sometimes very serviceable, because I believe the prime

trouble to be due to defective work on the part of the liver. I think muriatic acid would be of service in a case of this kind; chirata compound is also indicated; arsenious acid and nux vomica in combination would prove efficacious. I would suggest in this case, to give the man the benefit of the doubt of there being a specific cause; at the same time carry out our part of the programme by giving the following: A combination of biniodide of mercury, iodide of ammonium, tincture cinchona compound, extract of sarsaparilla or stillinga, and elixir of malt.

We give the iodide of ammonium in preference to the iodide of potassium for the reason that the iodide of ammonium carries or takes up as much iodine, which is really the reconstructive principle, but we also recognize that in ammonia we have a mild cholagogic action; we recognize that in ammonia we have a mild bronchial stimulant; we recognize that in ammonia we have a certain alterative action which is increased by its combination with iodine, at the same time we have a cardiac stimulant in the ammonia salts. All the bitter tonics have a certain cholagogic action; all the bitter tonics aid in elimination. It has been proven beyond question that cinchona aids in the elimination of urates, therefore we combine it with the other drugs mentioned. Then we have to cover the bitter principle with something to make it palatable in most cases; when it is advisable to do this you can make the balance of your mistura of aromatic elixir of malt. Or if you do not wish to cover the bitter principle, and it is not necessary except to make it palatable, you can simply make the rest of your mistura of water. We may still further have the use of a vegetable alterative to increase the eliminative action. We can give the fluid extract of stillinga or sarsaparilla, making the balance of the mistura of aromatic elixir of malt or water. It will depend entirely upon how much you wish to cover. In the malt you will carry a certain amount

of maltose and dextrose, which will aid in the completion of gastric and intestinal digestion. Suppose we make the prescription read:

R Hydrargyrum biniodide 1 grain
 Ammonium iodide 1 dram
 Tinct. cinchona comp. 2 ounces
 Fl. Extr. of stillinga, or
 Fl. Extr. of sarsaparilla. 2 ounces
 Arom. elix. of malt. q. s. 8 ounces

Misc., fiat mistura. Sig. Dessertspoonful after meals, followed by a good draught of water.

You may ask why we give these additional instructions? All iodine preparations are irritating to the stomach; there seems to be a peculiar idiosyncrasy in many of these cases by which iodine acts as a great irritant. Some patients are not even able to take iodine in water, but can take it in large draughts of milk, which is an important point to bear in mind.

MANGANESE BINOXIDE.*

By ANDREW H. SMITH, M.D., New York,
 Professor Emeritus of Clinical Medicine in the New York
 Post-Graduate Medical School; Physician to the Pres-
 byterian Hospital; Consulting Physician to St.
 Luke's, the Orthopaedic, St. Mark's and the
 Babies' Hospitals.

Among medicines having a specific action there is none which has given me more satisfaction than the binoxide of manganese. For many years I have prescribed it constantly for functional derangements of the uterus, and with a smaller percentage of failures than from any other drug with which I am acquainted.

It has been equally serviceable when the menses were too profuse and when they were too scanty; when the interval between the periods was too short, and when it was too long. In this respect there is no other term that describes its action as the word "corrective." In the absence of organic disease it seems to have the power, in a great many cases, of bringing the menstrual function back to the normal standard in whatever direction the deviation from that standard may have been. Again and again I have seen an

habitual interval of three weeks lengthened to the normal twenty-eight days, or a usual duration of eight days, for example, reduced to four or five. On the other hand, irregular or abnormally long intervals have been brought to regular four-weekly periods, and a scanty flow to a satisfactory quantity.

In painful menstruation not dependent upon anatomical conditions I have come to rely with great confidence upon the relief to be obtained from the binoxide. Beginning about four days before the expected period, and continuing until the flow is fully established, it will generally give a measure of relief for that time. It may, however, seem to be of little or no benefit on the first occasion; but if repeated the next month, an amelioration may be quite confidently predicted, and by perseverance during three or four periods, complete and permanent relief is usually obtained.

The headache of a burning character, and limited to the vertex, which so frequently has a uterine origin, is often promptly relieved by two or three doses of the drug, administered at intervals of two or three hours, and this even when it occurs during the intervals of menstruation.

Finally, in the only instance in which I have employed the binoxide for this purpose, it gives decided relief to the hot flashes attending the menopause. If the patient takes a pill of two grains at bedtime, she passes a fairly comfortable night; whereas, if the pill is omitted she wakes half a dozen times to find herself dripping with perspiration. I have, heretofore, depended upon one of the nitrites in such cases, but there are persons who cannot bear them even in the smallest doses, and in such cases I shall hereafter make trial of the manganese.

My experience with the drug convinces me that it controls in a marked degree the nervous disturbances emanating from the uterus. The effect is often too prompt to be attributable to a merely tonic action

* Original in *Georgia Journal of Medicine and Surgery*, January, 1898.

upon the general system, and I am forced to believe that it has a peculiar specific relation to the parts involved.

The dose is two grains three times a day, but as it is absolutely without unpleasant effects, it may be given in much larger quantity and at much shorter intervals.

For its effect upon the periods it should be given for three or four days before the expected time and continued nearly or quite through the period, this being repeated for several consecutive months.

A THIRD RECORD OF DERMATOLOGIC THERAPY.*

By J. ABBOTT CANTRELL, M.D.

Professor of Diseases of the Skin in the Philadelphia Polyclinic and College for Graduates in Medicine; Dermatologist to the Philadelphia and Frederick Douglass Memorial Hospital.

In recapitulating the work of the skin department in its records of therapeutic tests during a period covering somewhat over a year, I wish to draw attention to the value of certain drugs applied to affections of the skin.

The first of the papers emanating from this department during the period, presented the results obtained by the use of calomel (Calomel in Skin Diseases, *Med. and Surg. Reporter*, May 30, 1896, vol. lxxiv, No. 22, p. 681). The conclusion that, "Of the mercurial preparations calomel has proved of most service in the practice of dermatology" is maintained by later experiences. The manner of applying this drug was in the form of solutions in lime water (*lotio nigra*) $\frac{3}{4}$ to 2 per cent.; in oil (preferably olive) 3 to 6 per cent.; and in petrolatum (liquid) the same. With lanolin, petrolatum or zinc oxide ointment from 2 to 12 per cent. The choice of basic substance is governed by the location and condition of the disease. In eczema this drug proved exceedingly serviceable when the condition was of local attack, as in the vesicular or pustular

varieties, or when eczema rubrum had supervened, but the squamous forms were not in the least benefited. Local hyperidroses of the hands or feet were impressed favorably, while ivy poisoning recovered more slowly than with other remedies. Diseases of the sebaceous glands as well as the superficial variety of ringworm were cured in most instances, but the drug failed to prove itself advantageous in either ringworm of the beard or scalp. The drug acted beneficially in tinea versicolor and in contagious impetigo. Simple pruritus failed to receive benefit, while localized varieties such as those affecting the anal region became much less troublesome. Syphilitic and benign ulcerations healed rapidly under its use, while the secondary manifestations of syphilis and the hereditary form of the affection gave evidences of curative impress. Affections of the nervous system, such as simple herpes and herpes zoster, manifested a favorable result. Eruptions following the effect of heat, as malaria or pustular conditions, as in children, were benefited.

Sulfur, which formed the basis of the second paper (Sulfur as a Dermatologic Remedy, *Philadelphia Polyclinic*, June 6, 1895, vol. v, No. 23, p. 223) was given extensive experimentation resulting finally in the choice of the following solutions: Kummerfeld's, Vlemminck's and the so-called *lotio alba*, consisting of 4 per cent. each of zinc sulfate and potassium sulfide in a watery vehicle. Ointments of both sublimed and precipitated powder were advised in ratios of 2 to 10 per cent. with lanolin, petrolatum or ointment of zinc oxide as well as Helmerich's and Wilkinson's formulæ. Powders at times were given in full strength, or diluted with bland powders like lycopodium or calamine powder. Of the diseases in which sulfur was experimented with, eczema and scabies showed quick results. Diseases of the glandular system, both sebaceous and sweat, were found greatly benefited by its use, while cases of chilblain and other forms of dermatitis seemed to be

* Reprinted from *The Philadelphia Polyclinic*, October 16, 1897.

cured. Scaly eruptions and affections due to the trichophyton tonsurans were effectually and quickly relieved. Dermatitis herpetiformis and several other outbreaks also benefited by its administration. Verucous growths were not only diminished in size but the majority presented a clear base. From the records of this clinic there is no doubt but that this drug is rather underestimated than otherwise, and is consequently worthy of greater trial.

Later the results gained in the use of aluminum-naphtol-sulfonate (Alumnol in Dermatology, *AMERICAN THERAPIST*, July, 1896, vol. v, No. 1, p. 6) were reported. This drug was advised in powders from 12 to 25 per cent. with either powdered starch, lycopodium, kaolin, or fuller's earth; with petrolatum, lanolin, rose ointment, or zinc oxide ointment from 2 to 12 per cent. (the choice being governed by the inflammation and exudation present); in solution with water, liquid petrolatum, or collodion in strengths of from 12 to 50 per cent. This remedy proved efficient in all forms of eczema, intertrigo and dermatitis where exudation formed a complication. Non-parasitic sycosis was cured in one instance, but other cases were not even relieved. Contagious impetigo, tinea versicolor, scabies and pediculosis did not respond as quickly as with other remedies. Herpes zoster, ulcers of both syphilitic and benign types, erythema multiforme, ecthyma, furuncles and carbuncles were improved, while acne, acne rosacea, erythematous lupus, psoriasis, seborrhea, pityriasis capitis, dysidrosis and hyperidrosis were unimproved by its use.

Dithymol-diodid (Aristol as a Dermatological Remedy, *AMERICAN THERAPIST*, September, 1896, vol. v, No. 3, p. 51) was used in lanolin from 2 to 15 per cent.; in powder with either lycopodium or fuller's earth from 10 to 25 per cent. The conclusions formed can easily be detected from the following which referred to ulcers: "The experience gained in my work with this remedy proves it to be a decided stimulant, and in applying it to

ulcerations it was found beneficial in the more chronic, but if advised in acute or highly inflamed sores it soon gave decided pain with increase of the inflammation." Eczema, where thickening had occurred, epithelioma in its earlier stage, and tinea circinata were among the affections cured. Psoriasis as well as acne, erysipelas and furuncles did not improve at all.

Isobutylorthocresoliodid (Dermatological Uses of Europhen, *AMERICAN THERAPIST*, December, 1896, vol. v, No. 6, p. 231) was used as follows: Ointments of 2 to 10 per cent. with either petrolatum or lanolin, alone or in conjunction, or with one of the above in similar strength with the addition of boric acid. Powders from 2 to 25 per cent. with boric acid, and solutions from 2 to 20 per cent. with olive oil. Ulcerations formed the larger class in which this drug proved beneficial, and it was noted that the result was gained in a much shorter time than with most of the iodine derivatives. After certain granulations had formed in the non-syphilitic ulcers a change from powders to ointments proved greatly beneficial. Tinea circinata, tinea versicolor, and eczema, of all acute stages, were benefited, but erysipelas, psoriasis, epithelioma, lupus, tuberculosis and acne did not improve.

Tetraiodopyrrol (Iodol in the Treatment of Ulcerations, *Dunglison's College and Clinical Record*, March, 1897, vol. xviii, No. 3, p. 56) was used in the treatment of ulcerations, generally in powders, beginning with a strength of 12 per cent. with either powdered starch or lycopodium, and gradually increasing until the proper strength was found, which only in a few instances reached as high as 50 per cent. Ointments from 3 to 25 per cent. with either petrolatum or zinc oxide ointment were advised later. It was always found preferable to use a powder in the early treatment of these ulcerations, and after a certain amount of granulation had commenced, to change to an ointment.

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PUBLICATION OFFICE, 73 TO 79 FULTON ST., NEW YORK.

Address all communications to

THE AMERICAN THERAPIST,

P. O. Box 1170.

New York City.

Vol. VI. JANUARY, 1898. No. 7.

Editorial.

ARE WE VACILLATING IN OUR THERAPEUTICS.

A superficial observer, noting the sweeping changes that have occurred in our *materia medica* during the last decade, and especially the new aspirants for favor that have been used for a few months and then laid aside as unsatisfactory, might well regard the medical profession, or at least a considerable part of it, as changeable and without fixed notions as to the proper treatment of disease. A patient, noting that his physician, who started with quinine and aconite, has successively used antipyrine, acetanilid, phenacetin, and lactophenin, perhaps other drugs for approximately the same conditions, might feel that he was the subject of experiment and might be inclined to ask: How much damage have you done me with the drugs that you have in turn used and discarded, and how much harm are you doing me with the present favorite, which you will doubtless supplant with another before a great while?

More thorough investigation scarcely justifies such a view of modern therapeutics; change there has been; advance there has been; but in few instances has there been revolution in the use of drugs. Let us glance at the armamentarium of the surgeon. We no longer find the screw-

jointed scissors of his predecessor; his knives are brazed so as to present one shining metallic surface instead of a combination of steel and wood or ivory; all his instruments are simplified so as to render sterilization easy and to avoid corners for the lodgement of filth. But every one recognizes that he still uses scissors, knives and saws. A similar investigation of the armamentarium of the physician will show that he is still using the same therapeutic tools, but simplified, improved and rendered safer. Because it has been necessary to coin a new name for each modification of a drug, we fail to recognize the practical identity with the old, and we call by the name of innovation what ought to be styled merely a modification or improvement. True, in some instances something genuinely new has been discovered, and such substances are eagerly seized upon by the progressive members of the profession, who have long anticipated such a discovery and have been using means which they fully recognized as makeshifts, till the want could be satisfied. But because they have abandoned the makeshift for the fulfillment of a therapeutic indication, no one, least of all the patient, can blame them, or call them vacillating and novelty-seekers.

On the other hand, proper conservatism must be encouraged, and we very naturally look with suspicion upon the man who seems to keep on tap a supply of patients ready for experiment with whatever new drug is placed on the market. We, of moderate practice, wonder how it is that regardless of season or prevailing conditions this man can always lay his hand upon the disease with which it is expedient that he should experiment. In the light of fuller experience, too, we look back on his early successes with drugs which their own manufacturers have been forced to repudiate, and are amazed.

It may not be out of place to mention some of the newer drugs that have established themselves in our *materia medica*, although by mentioning any, there is

danger of being construed to condemn others, equally worthy, by silence.

It is difficult for a comparatively young medical man to imagine his elders practicing without the aid of some one of the coal-tar antipyretics. Quinine, to be sure, is a natural member of this group, but its constitution is much more complex than the artificial products; it lacks some of the most valuable properties of the latter, and its taste is nauseating in the extreme. The bitterest memories of my own childhood are connected with this drug. It never stayed on my stomach, however administered, and, after a few such experiences, I learned literally to fight against its administration. Yet it has no equal in malaria, and it deserves to be on the coat of arms of some of our middle and south western states. Antipyrin was heralded as the specific for fevers. It was argued that whether it actually cured the disease or not, the fever could be abated, and it would simply be a question of time before the patient could dispense with the artificial producer of the afebrile state. But it did not take long to learn that the essence of a fever was not rise of temperature, and the present swing of the pendulum has brought about a spirit of opposition to all antithermic medication in typhoid. Personally, I question whether the pendulum has not swung too far; whether the antiseptic action of acetanilid, and other members of the group, and the relief of febrile discomfort and restlessness may not occasionally counterbalance the cardiac depression. Antipyrin has a property of great value to operators, the power of checking capillary hemorrhage, without introducing any septic or putrescent material into the wound. Ferripyrin seems to unite this action with the well established styptic action of iron, without the objection of leaving a large clot which can be disposed of only by putrefaction and digestion.

As internal medicaments, acetanilid, phenacetin and lactophenin are usually to be preferred to antipyrin. Be-

tween acetanilid and phenacetin there is little therapeutic difference, both being excellent anodynes and gastric antiseptics. Lactophenin, which is phenacetin with lactic substituted for acetic acid, is tasteless and may thus be preferred to either of the preceding. On good authorities, lactophenin is also safer in general practice than other agents of its class. It is efficient in many directions. Locally, acetanilid is of value as a wound dressing and as a drying application in hyperidriasis. As there has been some controversy as to priority in the surgical use of acetanilid, we would say that we used it in this way while in general practice, in 1890, and were not then aware that there was anything startling or novel in such use. One of the greatest benefits of the coal-tar analgesics is the possibility of avoiding the use of morphine in the case of patients who demand the administration of some drug to relieve pain. Of course, when pain becomes intense, morphine is almost the only general drug that is of value.

Other drugs of great value are those of the aromatic ring and its combinations, such as the salicylates and benzoates. Ammonium benzoate is the vesical antiseptic *par excellence*, both base and acid being eliminated as acid ingredients of the urine. In rheumatism the more recent potassium salicylate is to be preferred to that of sodium. Salol is a pleasant and efficient gastro-intestinal antiseptic and deserves a place in our esteem as a preventive of foul breath, if for nothing else. But we have used this favorite with the sense of possible danger, from the carbolic acid generated from it. Hence, the newer salacetol is much to be preferred on account of its safety, and we can as little be accused of changeability in using it as if we chose a new instrument with a safety attachment which the old one lacked.

The double-ring group of benzols has not proved as valuable as one might have anticipated. Hydronaphthol has long

since been shown to be an impure product, and one who has seen mould develop where a solution was accidentally spilled, must remain sceptical as to its antiseptic efficacy. Naphthalin is certainly of value as an antiseptic, but its taste and odor are against it, and, even for domestic use, housewives are returning to the old fashioned camphor and tar moth-preventives. Benzo-naphthol is a good intestinal antiseptic, but, on the whole, not equal to salacetyl.

Modern chemistry has given us valuable preparations of bismuth. It must be admitted, however, that the principal secret of success in the use of bismuth is to give it in large enough dose. The senselessly minute tablets of bismuth with some worthless carminative or damp charcoal paste have done more to create a sentiment against bismuth than any intrinsic lack of merit. For catarrh of the stomach and bowel, bismuth subgallate is an excellent astringent, and some patients have considered it their salvation. For a more decided antiseptic effect, bismuth salicylate is of value, and there are still other compounds, as with benzoic acid, which are effective. For the after-treatment of gastric ulcer, we have used with great satisfaction a freshly precipitated hydrate, emulsified with some pure liquid petrolatum. It is a good rule not to give less than fifty centigrams of any preparation of bismuth.

In passing, the improvements in oily preparations due to the introduction of pure mineral oils and salves and to the use of lanoline and its congeners, deserve mention.

The strontium salts have given good results in many forms of disease. In certain forms of dyspepsia it seems as if the lactate were really a much-needed assistant to restoration of proper nervous tone of the stomach, though its exact method of action is not understood. It will also often cause the disappearance of sugar and diminution of urea in true diabetes, the relief persisting after a return to gen-

eral diet. Of late, we have used the salicylate as probably possessing intestinal antiseptic properties, and have had good results with it in two or three cases of diabetes, the urine remaining normal for several months.

One scarcely knows where to stop in discussing the virtues of the newer pharmaceutical products. We will close with an allusion to a considerable group, not of much direct therapeutic value but of enormous benefit in allowing convenient and accurate examination of the stomach contents, and thus in facilitating better therapeutics. We refer to the development of various pure forms of the aniline dyes, especially as tests for acidity, and as "markers" in clinical quantitation.

Current Literature.

IODOFORM SUBSTITUTES.—In concluding a clinical lecture, Prof. Charles G. Cumston epitomized his views on iodoform and its substitutes in the following words (as reported in the *Annals of Gynecology and Pediatrics*, November, 1897):

Regarding the employment of medicated gauze the professor stated that he had discarded the iodoform gauze in both private and hospital practice for the last two years for three reasons. The first was the very penetrating and disagreeable odor of iodoform; secondly, the possible danger of poisoning from the drug; and thirdly, because he had found other powders equally efficient, both as antiseptics and in controlling hemorrhage.

The three powders now exclusively used by him were "*xeroform*," or tribromphenol-bismuth, oxyiodide of bismuth and subgallate of bismuth. These three powders could be sterilized at 100° C. without decomposing, a fact that was important to remember because iodoform and iodol would not stand this heat without undergoing chemical decomposition.

These powders were odorless, non-toxic and powerful germicides. The "*xeroform*" and subgallate of bismuth gauze was 10

per cent., while that medicated with the oxyiodide of bismuth was sufficiently powerful at 5 per cent.

The subgallate of bismuth either in powder or as a 10 per cent. gauze was particularly recommended for the surgical diseases of children, as large quantities could be employed without danger of intoxication from the salt.

In private practice, especially when the operation was done at the patient's home, it was very desirable not to leave the house filled for days with the very disagreeable odor of iodoform, and this was done away with by the use of the above-mentioned powders.

TREATMENT OF BURNS.—M. B. Werner (*Phil. Polycl.*, Oct., 1897—*Medicine*) claims excellent results from the use of a moist antiseptic dressing in burns. The procedure recommended is as follows :

1. Place the burned member or surface in a carbolyzed bath of from 2 per cent. to 5 per cent., depending on the age of the patient and the extent of the injured surface. A threefold effect is gained by this—*i. e.*, antiseptis, asepsis, anesthesia.

2. Remove all the acid solution by a second bath in the physiologic saline solution.

3. Dust the entire surface with a powder containing acetanilid (one part) and compound zinc stearate (five parts).

4. Cover surface with narrow strips of Lister's green protective, or, if economy must be studied, thin gutta-percha tissue can be used instead.

5. Place wet sublimated gauze, ten to twenty thicknesses, over and around the surface, followed by ordinary bandaging.

The subsequent dressings differ in only one or two points from the first, as stated above. The carbolyzed bath is substituted by one of either the saline solution or a weak solution of mercury bichloride, followed by a spray of hydrogen dioxide, which will aid in removing all the pus and loose dead tissues; after this the surface is dusted with the powder, and protective

strips, gauze and bandages are applied. These dressings are changed as often as needed, the extent and depth of the burn making its own rule, usually known by the amount of drainage and odor.

The advantages of this treatment over and above that of lotions, oils or salves are: freedom from any accumulation of fats with dead epithelium, encouragement of a healthy epithelial granulation under a clean moist dressing, the Lister protective serving in the double capacity of preserving the new epithelial cells and as a temporary integument.

By this method cicatricial deformities are lessened and pain diminished.

THYMOL IN THE TREATMENT OF THE FEVER OF TUBERCULOSIS.—E. DeRenzi (*Medical Week*, Sept. 10, 1897) finds that thymol is a valuable remedy in the treatment of this often obstinate and troublesome symptom. He finds it to be of distinctly greater value than quinine, antipyrin, acetanilid, and sodium salicylate, as unlike these the thymol has no depressing effect. It is administered in four-grain doses in the form of a powder enveloped in a wafer. These may be given three or four times a day, and gradually increased in frequency until sixty or seventy grains are given each day. He finds that tuberculous patients are very tolerant of large doses of thymol and that it is well borne by the stomach, it seeming to favor digestion.—*Medicine*.

ALCOHOL IN CONTINUED FEVERS.—It is sometimes difficult to separate the scientific from the sentimental side of some questions. Dr. Richard C. Cabot asks in the *Boston Medical and Surgical Journal*—(*Med. Med. Journal*) what are the indications for the use of alcoholic stimulants in certain febrile diseases. He does not think that alcohol in itself is directly inimical to the toxemia which forms the chief danger in acute infections. In many cases alcohol is indicated, and it would be dangerous to withhold it. The author does not think we should, as Strümpel does,

give up alcoholic stimulation in fevers, but that we need a broader experimental basis for our practice of and use of stimulants.

He draws the following conclusions :

1. Alcohol, like other drugs, should be given to accomplish a definite therapeutic result, and if no signs of that result appear, the drug should be withdrawn.

2. Experimental evidence is much needed :

a. As to the effects of alcohol on the toxicity of the urine and the bactericidal power of the blood.

b. As to the result of treating acute febrile diseases without alcohol.

TREATMENT OF TYPHOID FEVER. — F. S. Moliny, M.D., of Karthaus (*Pennsylvania Medical Journal*, November, 1897), in speaking of intestinal hemorrhage, says :

"Intestinal hemorrhage, if it is slight, does not call for other measures of treatment than the most absolute rest of the patient, the restriction of his diet to substances being most readily digested and absorbed in the stomach and upper intestine, and even of that kind of food by all means not more than can be properly digested and assimilated. Food and drink are to be iced and lumps of ice held in the mouth and swallowed. The action of the bowels is to be as far as possible controlled. I never had but four cases of exceedingly serious hemorrhage. In one case the hemorrhage came on suddenly (during the first week) and was very large. The temperature fell at once from 104 to 97. Another patient had nine very severe hemorrhages during his extended illness. In these cases I gave aromatic spirits of ammonia and brandy as a stimulant, and gave the following prescription every four hours for a day or two :

R Acidi tannici.....	o	2	(gr. iii.)
Tincturæ opii.....	o	7	(m. x.)
Extracti ergotæ fluidi			
Spiritis terebinthinæ recti-			
ficati	āā	1	o (m. xv.)
Spiritis chloroformi	1	3	(m. xx.)
Mucilaginis acaciæ.....	60	o	(f 3 ii.)
Aqua menthæ piperitæ ...	15	o	(f 3 ss.)

"Under this treatment every case recovered."—*Med. Review of Reviews*.

LACTOPHENIN IN AURAL DISEASE.—Dr. F. T. Rogers, of Providence, in a special lecture on "The Relationship of Dental Irritation to Aural Disease," delivered before the Harvard Dental Club, of Boston, Mass., related details of a troublesome case in his practice, in which the excessive pain necessitated frequent doses of morphia for weeks. He finds that lactophenin will do better than morphia, viz. : "The danger of causing a drug habit in such cases cannot be over-estimated, and recourse should be had to morphia as a last resort. Some such analgesic as lactophenin, which is very efficacious in pain connected with the ear, should be given instead, and of all the products at our command this agent (lactophenin) has given me the most satisfaction."—*Atlantic Medical Weekly*, Dec. 18, 1897.

THE ADMINISTRATION OF PHOSPHATE OF STRYCHNIA DURING GESTATION.—W. B. Dorsett, M.D., St. Louis, Mo., recommends this drug in a communication to the *American Jour. of Obstetrics (Med. Review of Reviews)* for October, 1897, given in the form of a gelatin-coated pill gr. $\frac{1}{100}$, and gradually increasing the dose to gr. $\frac{1}{25}$, if deemed advisable. He says :

The following observations have been made by me in the use of phosphate of strychnia during the gestation of weak and debilitated patients : A good appetite and a good assimilation are obtained in the general weakness and debility of the anæmic, constipation is relieved, and, in short, the patient is built up and placed in a good condition to pass through the ordeal of labor; the uterus contracts promptly after the third stage of labor, and the use of ergot is entirely dispensed with. In this connection I wish to say that it has now been five years since I have used any ergot in my obstetrical practice. If I find it necessary to use the forceps the patient is given a hypodermic injection of one-thirtieth of a grain of sulphate or phosphate of strychnia as soon as the anesthetic is commenced, but no ergot is ever

used. I have also observed that after the continuous use of the phosphate of strychnia the uterus contracts promptly after the second stage of labor; and in many cases the application of Credé's method of expression of the placenta is not needed to bring it away, and no post-partum hemorrhages have occurred. The often-observed chilliness or rigors which in the majority of cases follow labor have been noticed in but few cases. These rigors, so common after labor, an account of which little can be found in the text books, is nothing more or less than surgical shock. This is obviated by the prophylactic—strychnia.

I have used strychnia for some time in my abdominal surgery for the purpose of preventing shock and to control the pulse in the operations, and in this way was led to its use in obstetrics.

In closing, I wish to say that, as phosphorus and strychnia are remedies used in the treatment of rachitis with good results, would it not be the remedy during the gestation of the rachitic foetus?

The phosphate of strychnia I have found to act better as a laxative than either the sulphate or nitrate.

PILOCARPINE IN CHORIO RETINITIS.—Dr. Hansell, at the meeting of the Section on Ophthalmology, College of Physicians of Philadelphia, detailed two cases of non-syphilitic central retino-choroiditis, in which the disease had been checked and vision greatly improved by the injection under the skin of pilocarpine muriate, and alluded to two others that were still under treatment, in which the benefit from the administration of this drug was marked. In all the cases potassium iodide and mercury had been previously exhibited in large doses without avail. In No 1. vision had fallen to $\frac{20}{200}$. The patient received daily, or on alternate days, according to the effect upon the heart's action, $\frac{1}{12}$ to $\frac{1}{8}$ grain. In four weeks vision was restored to $\frac{20}{20}$ (?). In No. 2 vision was reduced to $\frac{20}{60}$, and, by the same treatment continued for seven days, was brought to

nearly the full acuity. In none of the cases could a history of syphilis or other constitutional disease be obtained. Dr. Hansell's experience with pilocarpine in the above and other cases warranted his asking for the remedy a trial in the treatment of chorio-retinal inflammations, particularly in the acute form, and of opacities of the vitreous frequently associated with choroidal disease.—*Milwaukee Med. Journal*.

ARGENTAMINE.—Dr. J. S. Schulhof reports upon the use of this substance, which is æthylendiamin silver phosphate. This penetrates much more deeply into the tissues than the nitrate; it is equally astringent in weaker solutions; it is a much stronger disinfectant than corresponding solutions; it is a much better bactericide for gonococci; it possesses a much higher germ-destroying power for various microorganisms. He reports 328 cases of its use in catarrhal conjunctivitis, trachoma, catarrhal ophthalmia, ophthalmic blennorrhœa, follicular catarrh, traumatic conjunctivitis, blennorrhœa neonatorum, and eczematous conjunctivitis. The remedy is used in 5 per cent. aqueous solution once or twice daily, instilled without after-irrigation with water or sodium chloride solution. Corneal complications, even ulceration, pannus, iritis, or cyclitis, are not contra-indications. It should be preserved in dark glass bottles.—*Wiener Medic. Wochensch.*, 1897, No. 33, S. 1525, —*Amer. Jour. Med. Sciences*.

TREATMENT OF GONORRHOEA.—Baltz (*Monatschrift für prakt. Dermatologie; Centralblatt für Gynäkologie*, No. 21, 1897) reports the results of the treatment of gonorrhœa with argonin in 158 cases. The usual strength of the solution was 3 per cent., though one of double this strength was employed in obstinate cases. The writer infers that: 1. Gonococci disappear from the urine in about three weeks under this treatment; 2. Solutions varying in strength from 3 to $7\frac{1}{2}$ per cent. cause no irritation;

3. The cure in cases of acute hemorrhagic cystitis is prompt.

Piery (*Gaz. hebdom. de Med. et de Chir.*, No. 56, 1896) speaks highly of the therapeutic action of the nascent carbonic acid in gonorrhœal affections of the female genital tract. He employs a mixture consisting of seven parts of bicarbonate of sodium and six parts of tartaric acid. An ounce of this powder is introduced into the vagina through a cylindrical speculum, or in a gauze bag. Tartrate of sodium and carbonic acid result from the combination; the latter has an anæsthetic effect, quickly removing the local irritation, while the tartaric acid renders the vaginal secretion strongly acid, thus cutting short the period of vitality of the gonococci.

Kines (*Centralblatt für Gynäkologie*, No. 21, 1897) makes a novel suggestion with reference to the treatment of gonorrhœa of connective tissues. He advises permanent irrigation of the affected parts with water at a temperature of 40° C. He also places the patient in a bath of the same degree for twelve hours, the idea being to keep the entire body temperature so high as actually to kill the gonococci, which, he maintains, can be effected without any marked general disturbance.—*Amer. Jour. Med. Sciences.*

OVARIAN NEURALGIA.—To relieve the pain, Dr. S. C. Martin (*St. Louis Medical Era*) recommends:

R Extr. belladonna..... 4 grains
Extr. stramonium 5 grains
Lactophenin 1½ drachms

Make into twenty (xx) pills.

S. Take a pill two or three times a day; and where anemia exists, add to the above treatment

R Ferratin tablets, 8 grains each.. 1 ounce
(an original box of 50 tablets.)

S. Take one tablet after each pill.

VARICOSE ULCERS OF THE LEGS.—Simonelli (*Revue Medicale*, Oct. 6, 1897) recommends a powder composed of fifty parts of chloride of sodium and five parts of pulverized menthol. Both substances should be in the form of an impalpable powder, and intimately admixed.—*Medicine.*

THE ADMINISTRATION OF SAFE ANÆSTHETICS.—Mr. H. Bellamy Gardner writes so pointedly in regard to this subject that we quote the following: "Under the heading of 'The Safe Administration of Anæsthetics,' several communications have appeared lately, chiefly devoted to the worship of wierd and manifold remedies (always a sign of their futility) for the difficulties and dangers of chloroform administration. I would beg to humbly suggest that if this title were transposed and our attention, and more especially the teaching in the schools, were directed to the administration of safe anæsthetics, we should have less of the terrible mortality from chloroform which week by week is reported in the medical press of the present day. From the most carefully collected statistics we know that the mortality from chloroform in England and the Continent is very nearly 1 in 2,300 administrations, that the alcohol-chloroform-ether-mixture is 1 in 5,000 cases, that of ether 1 in 13,500 inhalations, while nitrous oxide gas has a scarcely appreciable mortality, and yet practitioners in Ireland and the English provinces keep writing about cloroform as if they had never heard of ether at all. Junker's methylene and chloroform inhaler, which has been used for a score of years, was actually figured last month as if it were a heaven-sent gift and panacea for all perturbed anæsthetists. The fact is that several deaths have occurred in connection with its employment. It is not by 'methods' with chloroform, but by learning how to give ether and nitrous oxide gas properly, that the number of these lamentable deaths under chloroform can be reduced. Those of our London anæsthetists who have a lifetime of experience rely almost exclusively upon ether and gas and ether for the whole of their routine work, only giving chloroform when ether becomes inadmissible. We must, indeed, be blind and prejudiced if, to save taking a little trouble, we go on giving chloroform to the most trivial cases requiring anæsthesia, knowing all the time that the drug is so difficult to eliminate when grave symptoms appear that we dare hardly expect to save the patient whose respiration ceases under its influ-

ence. The extreme rarity of a death from ether, and its stimulant effect upon the whole system, obvious even to a layman, is daily being more appreciated by the public, who are, after all, the best judges. They care little for the 'schools' of this and that drug; but they very rightly do not want to risk their lives for no justifiable reason, and we ought not to tempt them to do so."—*Amer. Jour. Med. Sci.*, from *British Medical Journal*, 1897, No. 1907, p. 160.

Book Notices.

ABOUT CHILDREN. Six Lectures given to the Nurses in the Training School of the Cleveland General Hospital in February, 1896. By SAMUEL W. KELLEY, M.D., Professor of Diseases of Children in the Cleveland College of Physicians and Surgeons (Med. Dept. Ohio Wesleyan Univ.); Pediatricist to the Cleveland General Hospital; Consulting Physician to the Cleveland City Hospital; President, 1896 and 1897, Ohio State Pediatric Society; Editor *Cleveland Med. Gazette*. 180 pages. Price, in buckram, postpaid, \$1.25, net. Cleveland: The Medical Gazette Publishing Company, 1897.

The author of this entertaining and instructive book loves children; he has studied them from all standpoints, as physician and as popular friend. He knows their little ills and their peculiarities; he ministers to body and mind equally well. In these six lectures he has set forth as fully as possible all he knows of them, and all he does for them to make and keep them well and to make them happy. It is not a treatise on diseases of children; but just everything "About Children" and their general welfare. Every general practitioner will profit from a perusal of the work; and perhaps it will do much good if also placed in the hands of mothers and nurses. It is not a "family doctor," and does not give directions for treatment; but where its contents are known, appreciated and applied, the children will be better off, and the doctor, when called by necessity, will have his work simplified, while the child will suffer less.

RUBAIYAT OF DOC SIFERS; by JAMES WHITCOMB RILEY. Illustrated by C. M. Relyea. Published by The Century Co., New York. 1897.

This is a glowing tribute to the hard-worked country doctor, expressed in the characteristic homely verse of the popular Hoosier poet. It idealizes the country doctor, and will set people thinking on his arduous devotion to his duty. "Doc Sifers" will become classical.

Ef you don't know Doc Sifers I'll yes argy, here
and now,
You've bin a mighty little while about here,
anyhow!
'Cause Doc he's rid these roads and woods—er
swum 'em, now and then—
And practised in this neighborhood sence hain't
no tellin' when!

There are 105 stanzas, and they tell a complete story of a useful, happy, beneficent life. Every doctor ought to read the book, and then keep it on the centre table of his waiting room where his patients can read it too.

The illustrations are profuse and artistic; they help tell the story. The presswork, paper and binding are perfection. It is a gem of a book.

PAMPHLETS RECEIVED.

From Dr. B. MERRILL RICKETTS, of Cincinnati, the author:

1. Ligation of the common Carotid Artery for Trifacial Neuralgia, with Experiment and Observations upon Dogs.
2. Surgical Melange.
3. Abdominal Incision for Ascites.
4. Appendicitis—Report of Four Cases.
5. Craniectomies—with Report of Four Cases.

From W. SCHEPPEGRELL, M.D., of New Orleans:

1. The Treatment of Laryngeal Tuberculosis with Cupric Interstitial Cataphoresis, with Report of Cases.—The Advantages of Direct Laryngoscopy in this Method.
2. The Progress of Laryngology.
3. Transillumination in Diseases of the Nose, Throat and Ear.

From W. T. ENGLISH, M.D., of Pittsburg:
The Element of Fear in Hæmoptysis.

From LOUIS FISCHER, M.D., of New York City:
The Clinical Value and Chemical Results of Using Prof. Gaertner's Mother Milk in Children.

(NOTE: If the reader is interested in the subjects mentioned, we have no doubt the authors will furnish copies of their pamphlets on request.)

The American Therapist.

A MONTHLY RECORD OF MODERN THERAPEUTICS,

WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

VOL. VI.

NEW YORK, FEBRUARY, 1898.

No. 8.

Original Articles.

*THE "URIC ACID CONDITION"— ITS CAUSE AND TREATMENT.**

By JOHN J. MOREN, M. D.,

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No condition is receiving more attention at present than that of "uric acid," especially since the advent of Haig's theory and the publication of results of his investigations, which have made it possible for us to explain many affections that were previously stumbling blocks to the physician and conditions to annoy the patient.

In presenting this subject I feel that my opinions should be guarded, lest they be met by vigorous opposition, and will ask you to consider them as mere suggestions. For lack of time I will not discuss the numerous theories that have been advanced, but will ask your attention to only two, viz: (1) Haig's, and (2) the nervous element, which latter I believe plays the opening overture to many and varied entertainments presented in a gouty patient.

Bouchard says that a young man by hygienic errors, abuse at the table, protracted studies at night, venereal excess and nervous shocks, the consequence of which may be a complete derangement of the mind, may develop the arthritic diathesis. I believe this, and further, that the origin of the diathesis is lack of proper nerve function. When I say this I do not mean to broaden specialism to inclu-

sivism, but maintain that specialism should be exclusivism.

In reviewing the conditions under which one is liable to acquire the uric acid diathesis we are struck with three important factors: First, abuse at the table; second, over-study, which includes over-work; third, nervous shocks. Either will cause disturbance in nutrition unless it be in a particularly strong constitution. No one will deny that the nervous system suffers more or less under all circumstances, and in various conditions; it suffers more, in proportion to the affection, in disturbed nutrition than in many other conditions. Thus suffering, the functions will be altered to a greater or less degree; the secretory and excretory organs will become disordered, consequently further disturbing the nutrition, and instead of the system being able to overcome this condition, it advances, causing a greater expenditure of energy, in turn establishing a condition known as the arthritic diathesis. This nervous influence is not so manifest in the hereditary as in the acquired form, especially the lithæmic condition. Gray has described what he calls lithæmic neurasthenia.

Uric acid often accompanies true nervous diseases not directly dependent upon such a condition. This might be a point in favor of the nervous system in its influence over the amount of uric acid, whether it be introduced or not eliminated from the system. In this connection I realize the ease with which diseased conditions may be explained by disordered nerve function. My object, however, is not to make every rheumatic a nervous patient, but to direct attention to an important point in the care of patients in the

*Read before the Practitioners' Club of Louisville, and contributed exclusively to the AMERICAN THERAPIST.

beginning, before the arthritic diathesis has become established.

Say such conditions have no origin in nerve function, from what do they arise? Are they co-instances, or subsequent results, or do they arise from causes independent of the existing conditions?

Next is the theory of Haig, which is supposed to have opened many dark places in this branch of medicine. While, like others, probably he has become a little enthused, I believe he has advanced many good points which will be appreciated more as we study and become more familiar with them. To begin with, he accepts Garrod's idea that uric acid is formed in the kidney, and claims to have established a normal ratio between uric acid and urea, — 1-32-3, which should remain so during health. Disease, various drugs, articles of diet, etc., may alter this ratio by preventing the elimination or over-introduction. The excretion or retention of uric acid depends upon the condition of the blood, whether it permits a grèater or less amount to be dissolved in the alkaline media; in other words, it depends upon the alkalescence of the blood. The introductions of acids lessens the amount dissolved; it is the reverse with alkalies. He also claims that the amount of uric acid excreted is in indirect proportion to the acidity and the amount of urine voided. He believes that uric acid compounds in solution cause headache, high arterial tension and other now supposed functional disorders. If there be poor elimination the person will sooner or later fall victim to some joint or other gouty manifestation. Introduction is the chief source of uric acid, especially from butcher's meat, coffee, tea, etc., or the nitrogenous diet.

So far my experience is similar to that of Haig, and I have no reason at present to question his results. The following cases will give you an idea of the value of his method of estimating the ratio of uric acid and urea.

First, my own case: I was suffering

considerably with headache, resembling migraine, the pain generally diffuse, growing worse as day passed; slow, high-tension pulse, varying from 55 to 70; disinclination to exert mind or body; extreme irritability. Estimation of urea and uric acid showed both in excess. The following are the varied proportions during an attack of severe headache:

12:30 P. M. (dull, heavy, diffuse).....	1-23
7:10 P. M. (severe)	1-16
10:00 P. M. (feeling better).....	1-29
7:30 A. M. (O. K.).....	1-32

This was verified by repeated examinations, and similar tests upon other cases gave the same results; and I believe that many headaches now diagnosed "migraine" and "nervous" are due to an excess of uric acid compounds circulating in the blood. At the time tests were made I began to ride a bicycle and it repeatedly reduced my pulse to 60. I experienced this only in the first two or three weeks. During these attacks the ratio would range from 1-12 to 1-18.

Case 2. Gout: The patient suffered severe pain in the joints and back in the early morning. The ratio for the twenty-four hours was 1-18. In the afternoon when he suffered less the ratio was 1-22. In the morning when at his worst it was 1-31. The low ratio for the twenty-four hours was due to diminished urea. However, it was shown in the afternoon and morning. This test showed that less uric acid was excreted in the early morning, or what they call the "acid tide" which was the cause of his pains.

Case 3. High arterial tension with great irritability: At the time the attack was subsiding the ratio was 1-24. After entire recovery 1-32. I was unable to secure a specimen during the attack, but alkalithia produced relief and the patient has had no trouble for eight months. I venture to say the ratio during one of these attacks would be 1-16 or 1-18. During an attack of a case similar to this the ratio was 1-18. Alkalithia and change of diet brought about speedy relief and he has had no trouble since. Prior to this he had an at-

tack every two or three months, which lasted, or rather kept him indoors, at least ten days.

Case 4. A patient thought to be suffering from locomotor ataxia, but did not present pathognomonic symptoms. He was a high liver and suffered occasional attacks of severe pains in the extremities. During an attack the ratio stood 1-51, after the attack 1-24. In this case you observe marked difference in the proportion during and after an attack. Relief followed the administration of alkalies and regulation of diet.

Other cases might be reported, but I think sufficient evidence has been brought to your attention to illustrate the value of this method, which I believe will prove beneficial to physicians as well as patients.

In regard to other diseases which Haig claims are due to uric acid, I cannot give any clinical experience.

For the treatment of the "uric acid condition" I cannot offer anything new. The measures I have used are old, but have been successful; and probably many of us in the rush to try new drugs forget the usefulness of old prescriptions which have stood the test of time.

First, and what I consider the most essential, is regulation of diet. I believe many chronic cases suffer more from improper diet than from gouty condition. In young people the diet should be restricted, especially as to the nitrogenous elements. In elderly people where there is a diminution of urea a full diet is preferred, the per cent. of urea being my guide, remembering that a lack of nitrogen is as bad as an excess.

Another point to be observed is to regulate the diet to suit the condition of the stomach. By this I mean if there be a hypersecretion, avoid sugar and starch; such instances have been met successfully by the administration of Taka-diastase. If there is a lack of secretion, use an easily digested diet until other articles can be substituted with safety. The object is to avoid fermentation and putrefaction. Al-

ways see that the bowels are open. In the beginning I give one-half grain of podophyllin and rhubarb. Later I use mild laxatives. For elimination I prefer bicarbonate of potassium in lemonade. Lithia did not act well in my own case. Alkalithia seems to have a splendid effect in some cases. Sodium salicylate is good, also hot air and Turkish baths. See that the patient drinks plenty of water and takes outdoor exercise. Iodide of potassium will reduce the high arterial tension. For headache Haig advises bromide and salicylate of ammonia.

Under the head of tonics I will mention iron, strychnia, arsenic, mercury, especially the biniodide, liquor hypophosphite compound, electricity and hydro-therapy.

My object in treatment is to prevent introduction of uric acid, promote elimination and improve the nutrition. In reviewing the numerous theories advanced and treatments proposed, we are in a natural state of doubt. Many may possess advantages over others, some may not affect the condition directly, but do so indirectly by correcting errors that would not have been corrected otherwise. This is especially true of the so-called meat and vegetable cures.

After all, the same may be said of these conditions as was once said about skin diseases, "Some can be cured by sulphur, some can be cured by mercury, and some the Devil himself cannot cure."

TREATMENT OF GOUTINESS.—Dr. R. W. Wilcox reports several cases (in *Medical News*) to show that many so-called neurasthenics really suffer from gout, or neurotic lithemia. He recommends piperazin water in bottle doses. His conclusions are: 1. That uric acid, as a causative factor in neurotic lithemia, a form of goutiness, should not be overlooked. 2. That a limited meat diet is productive of good results. 3. That piperazin administered in the form described in this paper is the remedy of choice for the elimination of uric acid, not only in this, but in other pathologic conditions dependent upon the same cause.

A CONTRIBUTION TO THE STUDY OF URIC ACID DISEASES AND THEIR TREATMENT.*

By WM. REDIN KIRK, Ph. G., M. D.

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The uric acid diathesis, embracing in its clinical aspect all the gradations from well-declared gout to those varied functional derangements depending as well upon faulty metabolism, is perhaps better known to-day than ever before, and perhaps as little understood as when Sir A. Garrod discovered the presence of uric acid in the blood and joints of gouty patients. There is no denying the fact that well-declared gout, associated with structural changes, and accompanied by pain and inflammation, is on the wane. Why this is so it is difficult to determine, but the fact also remains that in lieu of gout, in the aggregate form, we have a long list of ailments, which if not due to the presence of uric acid, are at least accompanied by it either in its free or combined state. Owing to the poverty of our nomenclature, no better term has been found than "goutiness," used by Ewart to express those varied functional disturbances and neuroses accompanied by uric acid and unassociated with definite structural changes.

Whether gout is a local affection, or a constitutional disease with a local manifestation, does not concern us within the scope of this paper, further than to quote Ewart, who says the condition is one affecting the entire body and each cell within it, even the germ cells sharing in the alteration and transmitting it to the offspring. So general a change can only be due to a deep-seated process affecting metabolism itself. It would be interesting here to pause awhile, were the time allowed us,

to speculate upon those changes which occur within the cell, and to study the force and influence of heredity upon the correlated diseases, gout, obesity and diabetes. For who could say, even though these diseases differ widely in their clinical appearance, that they may not yet be proven to have a common origin, and that common origin be found within the cell. For the origin of uric acid, and what is the starting point of disease, there are many theories familiar to us and unnecessary to be reviewed here. However, there are some of recent date so startling in originality and boldness that they demand our consideration. Among these the work of Horbaczewski, Kossel and others, as regards the derivation of uric acid from nuclein, and Haig's theory of uric acid and excessive vascular tension. Horbaczewski* found that uric acid might be derived from the decomposition of tissues. He found that it could be obtained in greatest quantity from the splenic pulp; but his researches were not confined to the spleen, he found it could be obtained from all the decomposing tissues in varying degrees. This he found also was not enough to explain the amount of uric acid in disease, and he believed that the leucocytes contained in the spleen and found in all the tissues in health, and in more abundance in some diseased conditions, must be the source of nuclein. Uric acid, he argued, would vary in proportion as there was a variation observed or induced in the aggregate number of leucocytes. He is borne out in this by the observations of R. C. Cabot,† who found uric acid present in the blood after a meal of calf's thymus or any food containing much nuclein. His theory of the derivation of uric acid finds confirmatory evidence in the recent treatment of goitre by thyroid extract, if Haig is correct in

* J. Horbaczewski, "Beiträge zur Kenntniss der Bildung der Harnsäure und der Xanthinosen." *Monatshefte für Chemie*, x, pp. 221-226.

† R. C. Cabot, *A Guide to the Chemical Examination of the Blood*, 1897.

* Read before the Mitchell District Medical Society, West Baden, Ind., 1897, and contributed exclusively to the AMERICAN THERAPIST.

his views regarding raised arterial tension being due to the circulation of uncombined uric acid in the blood. I have observed this rise of arterial tension in patients taking thyroid extract, and have had to more than once discontinue the treatment or diminish the dose.

Sir A. Garrod* explains gout by assuming an excess of uric acid and laying the blame upon renal insufficiency and the subsequent deposit of urates in the joints. Haig† goes further and claims that uric acid is toxic in its soluble form, and that it is mechanically irritating when deposited in the joints. He claims that in its soluble form it expends its toxicity mostly upon the vascular and vaso-motor systems, thereby explaining a vast number of vague symptoms and conditions which have often been puzzling to the clinician.

A brother practitioner has kindly given me the result of some experiments upon himself, which substantiate Haig's theory:

He has been a great sufferer from migraine, and testing his urine before, during and after the attacks, he found uric acid present when the headache was worst, and absent before and after each attack. The attacks were invariably accompanied by raised arterial tension. Since attention has been called by Haig to the effect of uric acid upon the vascular and vaso-motor systems, clinicians have observed any number of functional derangements and disease conditions traceable to it as a cause. Asthma, various skin affections, tonsillitis, pharyngitis, bronchitis, migraine, neuralgias, etc., and numerous neuroses traceable to disturbed vaso-motor equilibrium, not to mention the results following the presence of gravel, stone or uratic deposits in the joints and tissues.

It is possible, also, that the renal insufficiency observed in gout and rheumatism by Garrod and others, and contributing as a cause in determining an attack of gout

by preventing the elimination of uric acid, may be at first functionally caused by uric acid as such before its combination into insoluble compound, and not caused by the cell retention of the acid as biochemists would have us believe. It matters not what theory we may accept, the therapeutical indications remain the same whether treated by one method or another. These are, the prevention of the formation of uric acid by dietetic, prophylactic and hygienic measures.

I shall not consume your time with remarks on the prevention of the formation of uric acid, but will consider only the question of how best to deal with the condition when it is found. No other diathesis has so thoroughly exhausted therapy as has this one. We have visited and veered from one extreme to the other with varying success. The inorganic alkaline treatment has been tried and proven to be of only temporary value. The lithia salts, so much lauded as uric acids solvents, I believe to be almost worthless. Sir E. Roberts has proven by numerous experiments that when they do combine with uric acid they form insoluble compounds, very difficult of elimination. It has remained, at least in my hands, for the organic alkaline salts to accomplish the solution and elimination of the urates. And among these the best results have been obtained from piperazine alone, or in combination with phenocol, as best administered in piperazine water.

The following case, substantiating Haig's theory, is submitted for your consideration:

Mrs. W., age 40, a highly cultured and refined woman, of neurotic temperament, a chronic sufferer from migraine; had intermittent attacks of severe frontal headache for the last six years. Examination of the nose revealed no obstruction or catarrhal condition; health otherwise good; family history revealed long line of gouty, rheumatic and asthmatic ancestry. During the attacks, which came

* *Leçons sur les Maladies du Foie des Rains*, page 320, 1877.

† Alexander Haig, *Uric Acid as a Factor in the Causation of Diseases, etc.*, Second Edition, 1894.

on suddenly, there was intense pain, raised arterial tension which, after the first day, subsided until the pulse was almost imperceptible. If the attack was very severe there was loss of consciousness. She ate little or nothing during these attacks, and the renal secretion was diminished, high in color and filled with brick dust deposits, and examination showed an increase of uric acid and urates during the attack, and an absence of these substances in the interval of good health.

In view of the family history and her physical condition, she was placed upon piperazine, which very materially lessened the amount of uric acid and the severity of the pain. It was also noticed that the arterial tension subsided in a very marked degree. Later I put her on piperazine water with gratifying results. The almost absence of pain I attributed to the combined action of piperazine and phenocol. She was, of course, restricted in diet, and given the usual directions as to hygiene.

This case alone bears out the conclusions of Haig and others, and to my mind establishes the value of organic against inorganic alkaline salts. I omitted to say, in her case I did not try the usual remedies in such cases, as she had previously run the gamut of the entire pharmacopeia.

In conclusion I may add, that I have been fortunate enough to relieve two cases of chronic asthma traced to uric acid as a cause, by the use of piperazine, which I consider the best of all the organic uric acid solvents.

IODOFORM-ETHER IN THE TREATMENT OF CERVICAL CATARRH.—Dolérís (*Bull. Génér. de Thérapeut.*, 1897, No. 11) speaks highly of local applications of iodoform-ether in cases of obstinate cervical endometritis. The iodoform is thought to exercise an antiseptic action, while the ether, by causing strong contraction of the tissues, forces out the contents of the diseased glands.—*Amer. Jour. Med. Sciences.*

THE TREATMENT OF ACUTE GONORRHEA.*

By J. HENRY DOWD, of Buffalo, N. Y.

A question I am frequently asked by my professional brethern, is: "How do you treat a case of gonorrhea in the male?" I am sorry that for want of time I am prevented from going more into detail regarding this most terrible of all transmissible diseases.

Compare it with syphilis; the latter was a few years ago thought to be incurable, being transmissible even unto the third generation. The layman with a gonorrhea seems not to hide his condition. In fact, some are so out-spoken as to boast that they always have it and would rather have the clap than a hard cold. With syphilis they would hide their condition, thinking it loathsome, and not knowing the time that they might not lose their hair, the sight of an eye or be covered with a skin eruption or nasty ulcers. What a delusion. Although syphilis is a constitutional disease and gonorrhea a local condition, should I be compelled to advise in regard to the contraction of either I should say, choose syphilis; for although I must differ in the prognosis, the words of Jos. Price are true "Gonorrhea kills more people than syphilis, although syphilis is a disease of a life time."

I am afraid that with such an apparently serious prognosis as above I may be misunderstood, so I will come to the point at once, and say that gonorrhea can be permanently and quickly cured. A case can and should be carried through the different stages without any complications whatever, and, to go a little further, the usual trimming of cotton can be dispensed with after the third or fourth day, excepting possibly at night.

This, as all diseases of the genito-urinary tract, should be dieted and receive hygienic care the same as though one

* Read by request at a meeting of physicians at Buffalo, N. Y., and contributed exclusively to the AMERICAN THERAPIST.

were dealing with an aggravated dyspepsia. To all patients I give a printed slip which reads, "Avoid rhubarb, asparagus, tomatoes, candy, cheese, tobacco (if patient is nervous), alcohol drinks, including cider, bicycling or horse-back riding. Take meat in moderation. Plenty of milk. Exercise, but not to fatigue. Soak the penis in very hot water several times a day. Allow no one to use the towel that you are daily using. Thoroughly cleanse the hands after each handling of the organ and have the bowels move daily."

These instructions must be carried out to the letter if we are to have:

- 1st. Nothing of an irritating quality in the urine.
- 2d. Nothing that will tend to increase congestion or inflammation.
- 3d. No case for the Ophthalmologist.
- 4th. No chordee.

At the present day we know that gonorrhea is a disease due to germs, the same being transmissible and capable of producing a specific inflammation; therefore, to cure the disease they produce, it seems only rational that we should destroy these germs as quickly as possible and restore to normal the tissues they have inflamed. It would seem reasonable to a layman that the sooner an enemy can be destroyed the less damage he can do. Until six or seven years ago gonorrhea was considered a disease only prevalent in the ignorant or illiterate class of humanity; but since that time it has become apparent that in 80 per cent of the women who today are being curetted, castrated or mutilated in some way, the cause can be traced to the gonococcus, although many of these women occupy stations above the average, not only socially but mentally.

Scientific men throughout the world have been and are still striving to place on the market a drug that will act as a specific. I, for one, can assure you that up to about two years ago their labors were of no avail; but thanks to one of those indefatigable German experimenters

we now have a drug which is sure death to these specific germs (when used as it should be) as though each coccus was caught separately and shot. I refer to argonin.

Although this drug is, in my opinion, the most powerful germicide, it has no astringent properties. It will readily be seen that as soon as it has finished its work something must be substituted to correct the damage that has been done—this an astringent. Doubtless many will be averse to the practice of at once forcing an injection into a canal even moderately filled with pus and germs, thinking if they do so, that as the fluid flows backwards, it will carry before it and into the lower and dependent portions the urethral debris and only complicate the matter. I simply instruct a patient before injecting to urinate, say two tablespoonfuls, and then to compress the meatus when the canal is full, as manifested by a slight pain, allow the urine to gush forth, and repeat this several times until the bladder is empty. I am sure that if this little procedure is carried out all crevices will be distended and a canal clear of any pus will be the result. Now the injection can be thrown in without any fear of forcing debris into the posterior urethra.

A case presents itself with the cardinal symptoms of gonorrhea. The microscope proves such to be a fact. Generally the ardor-urinæ will call for treatment; in fact, it is a good thing to render the urine alkaline. A mixture of potass. bi-carb. and extr. hyoscyamus in syrup of lemon every three hours in a glass of water will act admirably. Argonin, 2½ per cent. solution in distilled water, 3 oz.; inject a syringeful four or five times a day, holding it in the urethra about half to one minute. The above should last the patient about 3½ days. At this time the solution should be increased to 3½ per cent. and used as above for four days, when in my opinion argonin has done its best work. In fact, from many careful microscopical examinations made by me,

as early as the fifth day no gonococci could then be found. I will not deny the fact that they may be present in very small numbers, but if so, they are deep in the tissues and their presence is only known at this time by a morning drop.

Not only gonococci, but all germs, love a fertile soil for breeding. The sooner a normal condition can be obtained the quicker they must give up the ghost. Furthermore, the blood vessels, now, instead of being in the turgid condition as when actually inflamed, are in a partially collapsed condition, and astringents will be found to work quickly. A solution of zinc and alum, say $2\frac{1}{2}$ grs. to the ounce, should be injected four times a day. Notwithstanding the fact that I personally have but little faith in internal remedies as curative agents on the guito-urinary tract, a mixture of balsam of copaiba and liq. potassii will show its good effects.

The question may be asked, Is the patient well when he is free from discharge? Is there no fear of a return after three or four days' stoppage of the treatment? Furthermore, is he absolutely incapable of transferring, not an acute gonorrhea, but a low form of inflammation? Yes; providing there is absolutely no discharge and the morning urine is clear and free from all sediment. We can go further and examine the semen. This can be done by stripping the vesicles. I feel justified in stating that a cure should be obtained in from ten to twelve days if these instructions are carried out.

MEMBRANOUS COLITIS.*

By PHILIP F. BARBOUR, M. D.,

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pital, etc., Louisville, Ky.

I have under observation at the present time a case of membranous colitis, the patient having suffered with the trouble for thirteen years. He has been under

the care of a great many physicians at different times without any permanent relief. A month ago I was called to see the gentleman, the history being that he had been quite sick for two months, having run down considerably in flesh and strength. His complexion was slightly jaundiced; he suffered from palpitation of the heart; vague pains throughout the abdomen, more particularly in line with the transverse and descending colon.

There was no disease of the kidneys; spleen was normal in size; the liver was somewhat smaller than normal, but there has never been any ascitis, nor was there any pain on pressure; the stomach was apparently unaffected; there was great restlessness and insomnia at night and the vague pains and discomfort in the abdomen as just mentioned. Heart, lungs and nervous system were negative except for the palpitation of the heart, which was shown to be reflex from the duodenal trouble.

In examining the abdomen carefully I found that there were two spots particularly tender; one was about where the duodenum joins the stomach, or at the pyloric end of the stomach, where there was considerable tenderness on deep pressure; the other tender point was about the splenic flexure of the bowel. Deep pressure elicited pain in both locations.

I first used a cantharidal blister over the region of the duodenal pain, which was quite satisfactory in relieving the pain, and also the palpitation of the heart, from which he has not suffered from that time until this.

I judged at the time he had two troubles, one was a catarrhal inflammation of the duodenum, the other a membranous colitis. As an internal medication for the catarrhal condition of the duodenum I gave him a salol-coated pill of silver nitrate ($\frac{1}{4}$ grain of silver nitrate coated thoroughly with salol), the object being to enclose the silver nitrate in a vehicle which would pass through the stomach unchanged, and thus make application of nitrate of silver

*Reported to the Louisville Clinical Society and reported exclusively to the AMERICAN THERAPIST.

to the duodenum itself. Some time after taking the pill he would feel a little discomfort in the region of the duodenum, showing that the medication was rational.

The catarrhal condition seems to have entirely disappeared. The color of the skin and the conjunctivæ has also become normal.

I have tried a number of different methods of treatment for the membranous colitis. Two or three weeks ago the patient saw Dr. Mathews, who advised the use of silver nitrate by enemata, in solution of five grains to the ounce. The use of this seemed to me to afford some relief, but it has been by no means permanent. After that I used injections of creoline. I also gave him bichloride of mercury, arsenic, iron and strychnine, for the tonic effect of these remedies, but with little apparent benefit.

I believe the etiology of membranous colitis is not well understood. Some authorities claim it is due to a neurotic condition, others claim it is due to micro-organisms found in the transverse and descending colon; another theory is that the trouble is reflex, the result of disease of the sigmoid flexure or ulceration of the rectum. No theory thus far advanced seems to be satisfactory.

I have had the best results in the treatment of membranous colitis by the injection of creoline and other antiseptics.

(1) *GASTRIC ULCER (?)*; (2) *GEN-
ERAL LYMPHANGITIS*; (3) *CIR-
RHOSIS OF THE LIVER*.*

By THOS. HUNT STUCKY, M.D., Ph.D.,

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cine, etc., Louisville, Ky.

Gentlemen:—This young man is aged twenty-four years; German; occupation hostler; father and mother living, both in good health; several sisters and brothers living. His family history is quite clear.

*Clinical lecture delivered at the Hospital College of Medicine, and contributed exclusively to the AMERICAN THERAPIST.

Mr. B. comes to us with the history of expectoration of a slimy, yellow fluid immediately after eating; the bowels also frequently acting immediately after the ingestion of food. Diarrhea, alternating with constipation. Pulse rather weak, and tension low. He suffers from frontal headache. Appetite fair, has no insomnia; some precordial oppression; occasionally expectoration of coffee-ground material. Emancipation marked, rather anemic. He says these disturbances have existed for the last three months. He also gives a history of syphilis.

From the history of very much precordial pain, alternating diarrhea and constipation, coughing up in the morning a slightly tenacious, viscid mucus, accompanied at times by a coffee-ground appearance of the material thrown up, would lead us to ask ourselves at first this question: What will produce blood in the expectoration? Is this material vomited, or is it expectorated? The first question that would come up is, could there be a slight hemorrhage, or is the condition specific in origin, by which there is a little oozing from the post-nasal space or throat; or is it a gastric condition by which there is a little blood thrown off, so that it sometimes appears in the expectoration by being vomited. Could we have a bloody expectoration coming from the lung, if so what is the condition? A trachial ulceration could produce it, a chronic pneumonia, there might be a point of tuberculous deposit which is now undergoing absorption, or an irritating bronchitis is sometimes accompanied by blood in the sputum, but blood in the sputum from these locations should not be coffee-ground in character. It should be clotted, it should be clear, or it might be very dark or purplish in color rather than coffee-ground or brown. We would naturally suppose, then, that this blood enters the stomach and is vomited, that the blood is either swallowed, or comes from the stomach because of some condition existing there, and owing to the action of

the gastric juice upon the fresh blood it becomes partially digested or disintegrated which gives it the characteristic coffee-ground appearance.

There is another thing that we must take into consideration here, viz: this man complains of greatest pain immediately after eating; he is anemic; he has been losing flesh; he has lost fifteen pounds within the last three or four weeks. He says that he had syphilis four years ago, that he went to Hot Springs and remained under treatment there for four months, that he had a number of sores on his legs, that his hair fell out, etc.

There is a very good history of ulcer of the stomach, if it can be subsequently verified. Upon examination we find that he complains of pain on pressure below the lower border of the left lobe of the liver, the painful area extends slightly below the ribs, pain and localized tenderness, near the pyloric end of the stomach. I should judge, the stomach as far as we can make out by palpation, seems to be somewhat contracted. The liver is slightly enlarged, but this is not significant, as I believe in most cases the liver is rather enlarged accompanying disturbances of the alimentary tract, it makes no difference from what cause. This is probably because of imperfect work in the alimentary tract, double work is required of the liver, and a condition of congestion and enlargement follows. I believe clinical experience will verify that statement. His tongue has not the characteristic appearance of gastric disturbance, rather an intestinal tongue, it is red. We find one small mucus patch in his mouth.

The question comes up here, what is the best treatment for this man? It is an important question; because we have a condition with which to deal that requires active treatment, and the drugs that would ordinarily be used are all hard on the stomach, and the evidences point to the probability of there being an ulcer of the stomach present. While it is true we may have ulcers of the stomach of specific

origin, I question very much whether we frequently see them, and whether we can recognize them beyond question. The important question is, if we have here a specific ulcer, are we going to treat it just like any other ulcer, or shall we take into consideration the fact that it is specific in origin, and institute treatment accordingly? If this man came to me in private practice, and his position in life was sufficient to justify handling the case as I desired, I would put him on the mercuric bromide of gold hypodermatically, five to six drops every four hours. I would simply attempt to determine, as far as possible, the fact whether there was an ulcer of the stomach or not, by observing the expectoration. I concede the fact that the history of hemorrhage in this case is exceedingly unreliable.

Ulcer of the stomach should be treated by first enjoining absolute rest on the part of the patient, careful alimentation with food that has been prepared by being pre-digested, so that the stomach will have the least possible work to do. He ought to be placed in absolute rest. He should be fed systematically; the dejecta watched to determine as far as possible whether that would be of any service to us, and if so in what way. It might be possible that there is no hemorrhage, that there is a post-nasal trouble, that there is a bronchial trouble, or something of that kind to account for the blood which is present in the stomach. He says that every morning he expectorated coffee-ground looking material. Lavage might be of service. We might by a careful manipulation of the tube wash the stomach and see the exact condition of the mucus, etc., which would be of service to us, and I would be inclined to give this method a thorough trial, after trying some other agents. If we do not desire to use the mercuric bromide of gold, the hypodermatic injection of mercury might be of benefit if the ulcer is specific, but the condition which confronts us, and which is of the utmost importance, is the patient's di-

gestive condition. Now if the theory is correct that we may have an ecchymotic spot in the stomach, and this ecchymotic spot has been digested by the action of the gastric juice, would it be right and proper, recognizing the condition, to give the man any digestive agent? Would this plan not further increase the trouble which already existed? We must not jump at the conclusion that this is a stomachic condition. If it is a fermentative trouble, then the pepsins are indicated; but if he has a gastric ulcer, the condition will be increased by the administration of pepsin. We would thereby increase the trouble which already exists. Of course, the same line of reasoning would apply to all the digestive agents. The albumens would be of great detriment to this man, simply from the fact that it produces a local congestion, and if there is already an exposed surface it would interfere that much with the healing process. I would be in favor of giving him, simply to determine the condition as far as possible, something like beef peptone every two or three hours. I would be in favor of clearing the stomach in the morning by the administration of warm water, to see whether it would be thrown up, and if so what came after it, whether there was any blood, or enough to tinge the ejecta. This would be beneficial in another way, it would free the stomach of the congestion that might exist and the caloric action would be sufficient to produce a certain amount of sedation or local anesthesia, which would be a point gained. Then again the fact of distension by the water would increase the dulness of the organ; not only that, but if there be any loose, adherent or tenacious mucus, the large volume would be of benefit because of contraction of the stomach upon something which gives resistance. It is something like the uterus contracting upon a full grown fetus which acts much better than it does when the uterine contents are expelled at two or three months. The stomach will act bet-

ter upon a large amount than upon a small one, which would assist in carrying off into the intestines this viscid mucus, and in this way it would be eliminated. Or if emesis occurs a large part of the mucus would be thrown off in that way. Further, a large amount of water sometimes exercises an influence as a purgative, in this way materially aiding in elimination; warm water often exerts a certain amount of intestinal action, and is therefore indicated. For this reason a liberal draught of hot water before breakfast, a hot seidlitz powder, hot Crab Orchard water, Carlsbad water, etc., are indicated. I believe that a great deal of the action of the various Spring waters is due to the heat rather than to the mineral composition of the water.

We will give this patient beef peptonoids and pre-digested foods, with rich milk or cream, enjoin absolute rest, and try to determine the point whether there exists a gastric ulcer, or whether the trouble is gastric in character. If it seems indicated we will administer pepsin or pancreatine later. It is a difficult matter to settle positively the exact condition in cases of this kind.

Case 2. Mr. M., aged thirty-five years: This patient came to us three or four weeks ago, and the only thing that could be determined at that time was a general abdominal hyperaesthesia. He complained of tenderness in the right hypochondriac region, extending along the colon and down to the sigmoid flexure. There was marked constipation, emaciation, anorexia. He was given an active purgative, which appeared to aggravate the condition. It was suggested that he be given a colonic douche, but it was not done on account of the fact that means were not at our command for carrying it out at that time. He was given, you will remember, on account of the pain in the right hypochondrium extending into the epigastric region, a prescription containing chloroform, nux vomica, dilute muriatic acid and cinchona. I cannot see

any marked improvement from the administration of these agents. Subsequently he appeared, and was placed upon minute doses of the iodide of potassium. There has since been some evidence of improvement. His bowels are now regular, but he still complains of pain in the right hypochondrium extending over to the left. You will remember at our first examination there was pronounced distension in the region of the sigmoid flexure, and we were able to make out an accumulation of fecal matter in the colon; that has evidently discharged, and in so far our treatment has been successful.

There are now glandular enlargements throughout the entire lymphatic system. I think there is some obstruction to the lymphatic system which has brought about this general glandular involvement. The condition is now one of general lymphangitis.

In regard to treatment: We have a certain number of drugs which are claimed to act upon the lymphatic system entirely, and we will have in this case a good opportunity to test their efficacy, which we will do, making notes as to quantity of each drug administered, whether per ore, or hypodermatically, and give the result in a subsequent lecture. There is so much to be said concerning the treatment of general lymphangitis, and so many drugs to be considered, that we could not hope to do justice to the subject this morning, but will take up the question again at the next clinic hour, using this case as an example.

One feature which is rather peculiar we notice in our examination, *i. e.*, that there are no enlargements of the glands of the neck, but all the other superficial lymphatic glands appear to be involved. He says some years ago while living in the old country, the lymphatic glands of the right side of the body were similarly enlarged, and that the lumps have never entirely subsided since. The lymphatic enlargement, at that time, was not general, however, as it now presents.

Case 3. Geo. J., gives a history of cirrhosis of the liver with marked atrophy of the organ. Pain between the shoulder blades, radiating down the right side, pain in the right shoulder; tongue thick and coated with a yellowish fur; patient anemic, slightly jaundiced; constipation marked; patient lethargic. There is no history of chronic bronchial trouble, although at present he has some cough. There is a marked history of *imbibition*, shortness of breath, a decided fulness in the gastric region in the morning, which only disappears after the ingestion of food or his customary morning toddy. The symptoms point to the existence of an extreme gastric catarrh.

When he first applied to us for treatment, which was two weeks ago, he was given a thorough purging to open the secretions, and was then placed upon the mercuric bromide of gold and arsenic on the ground, as I told you at that time, that I believed the cirrhosis of the liver exercised a very marked influence in the production of his gastric disturbances. As to whether the mercuric bromide of gold and arsenic is curative, of course no one would take such a position, but I believe it has been demonstrated clinically that this preparation exercises a marked influence in cirrhotic conditions, it is a decided reconstructive, and seems to arrest the cirrhotic changes. This combination acts differently from either gold, arsenic or mercury given alone; of this there can be no question. It seems to form, in combination, an entirely new compound, which exercises an entirely different action from either of the drugs when administered singly.

Mr. J. tells us that he has gained one and a half pounds in the last eleven days. His tongue is still large and flabby; he still shows a cirrhotic condition. About every ten days he ought to be thoroughly purged in order to stimulate the secretions and aid in elimination. He has been taking ten drops of the mercuric bromide of gold and arsenic daily. As he seems to be gaining slightly, we will continue this combination, increasing the dose one drop, making eleven drops per diem. We believe improvement will continue under this treatment.

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PUBLICATION OFFICE, 73 TO 79 FULTON ST., NEW YORK.

Address all communications to

THE AMERICAN THERAPIST,

P. O. Box 1170.

New York City.

Vol. VI. FEBRUARY, 1898. No. 8.

Editorial.

THE TREATMENT OF DIPHTHERIA.

Diphtheria is one of the most terrible scourges of early life. During the year 1895 more than 10,000 cases were reported in New York City. As large numbers of the mild cases are overlooked or diagnosed as "follicular tonsillitis," "catarrhal croup," or "simple laryngitis"—or are wilfully suppressed—we can readily understand how the disease must have been much more prevalent. In comparing the mortality of diphtheria with that of scarlet fever, we find that four times as many deaths are caused by the former disease. Under five years of age the mortality of diphtheria, at certain public institutions in New York City, at times reaches 40 to 50 per cent. We must bear in mind, however, in considering the statistics of institutions, that these percentages exceed the average because only the most severe cases are sent thither. Mild cases are usually treated at home even amongst the very poor.

In 1895, in New York City, nearly 2,000 deaths were ascribed to diphtheria or croup. We include the latter condition because fatal croup in childhood, in the vast majority of cases, is synonymous with diphtheria of the larynx. The milder conditions known as "catarrhal croup" or "false croup," or "catarrhal laryngitis"

are seldom reported to the Bureau of Contagious Diseases.

The prognosis in diphtheria depends to a great extent on the site of the exudate. Hence all statistics of this disease ought to distinctly specify the region involved. Pure tonsillar diphtheria is usually a very mild disease, with a good prognosis—about 95 per cent. recover. Nasal and laryngeal diphtheria are virulent manifestations of the same disease which, if left to themselves, would probably not yield more than 5 to 10 per cent. recoveries. The statistics of diphtheria under two years show that 30 per cent. occur during the first and 70 per cent. during the second year of life.

The treatment of diphtheria is a broad subject and can only be briefly considered. Preventive treatment—as in measles and scarlet fever—can only be accomplished by means of isolation and the destruction or disinfection of the various sources whence the contagious elements emanate. Isolation in separate apartments or buildings of every suspected case offers at present the best prospects. The attempt to immunize well children by anti-toxine injections—on the same principle that small-pox is prevented by vaccination—has not met with the anticipated results. Still, of 460 children treated in Berlin with immunizing doses of anti-toxine, of whom 18 contracted diphtheria rather late and of a mild type, not a single death occurred (Fisher). So that we may look in this direction hopefully for the future.

The actual treatment of diphtheria—thanks to the labors of Behring, Aronson, Roux, Baginsky, and a score of others—is more satisfactory than it ever was in former times. The anti-toxine treatment has come to stay. In hospital reports from the Continent the mortality from diphtheria has been reduced to 10 or 15 per cent. In private practice the results have been particularly encouraging. In its recent report the American Pediatric Society announced returns from 615 phy-

sicians, of whom more than 600 were firm believers in the value of anti-toxine in diphtheria. The average mortality in 5,794 cases was 12.3 per cent.; and, excluding the moribund cases (or those dying within twenty four hours from the time of injection), it was reduced to 8.8 per cent.

The opponents of this method of treatment lay emphasis on the fact that in certain institutions—like the Willard Parker Hospital in New York—under the anti-toxine treatment the mortality still reaches 40 per cent. or more. Such comparisons are unfair in that only the most important cases are usually referred to such institutions. In private practice our experience in laryngeal diphtheria, in which intubation and inoculation were performed, has been particularly favorable. Thus, whereas formerly we counted on 33 per cent. recoveries in intubated cases we now average nearly 70 per cent. Bokai, on the Continent, now claims that the average duration of cases after intubation is 19 hours less than formerly. In tracheotomized cases he is now able to remove the canula during the first ten days in 80 per cent. of the cases.

The treatment with anti-toxin is indicated, therefore, in all severe forms of diphtheria—nasal, laryngeal, pharyngeal or tonsillar. In mild cases of tonsillar diphtheria it is not essential and the older methods yield sufficiently satisfactory results. Thus there is still a sufficient number of cases in which the use of local antiseptic sprays or gargles, nasal douches, and the internal use of tincture of the chloride of iron, combined with chlorate of potash in small but frequently repeated doses, are of use. B.

EDITORIAL NOTES.

THE bacteriological department of the New York Board of Health is making a fight for life just now. That is to say, there is a possibility that this department will be restricted to its legitimate functions, which should not include the manu-

facturing and dealing in virus, serums, etc. It was an error ever to permit this department to make and sell vaccine virus; but when the serums were taken up additionally this commercialism of a department of municipal government became an abuse, so aggravating that its continuance seriously detracted from the otherwise distinguished services and record of the department.

It is not a proper function of democratic government to manufacture, and sell in competition with the independent citizen, any commodity, whether drug, food, clothing or other necessity.

The bacteriological department of the New York Health Board should limit its direct interest in biological products to a strict control over the quality of all virus, serums, etc., sold in this city; such supervision will constitute a proper and valuable service to the community. We earnestly hope that all authorization for the antitoxine manufacturing plant, granted under misapprehension and in response to a *pseudo* "popular clamor" three years ago, will be withdrawn definitely and permanently.

IT IS SAD but true, that however carefully text-books and annuals are compiled in other respects, most publications of this kind are woefully deficient and behind-the-times in the matter of materia medica. We have just looked over the chapter on materia medica in a first-class Annual for 1898, presumably covering all important publications during 1897; we have looked in vain for a dozen references which are familiar to us and which should not have been omitted; we have observed references and descriptions not worthy of mention and place in a permanent record of this kind; we have found that most of the matter is irregularly treated, neglected, overestimated, deserving articles omitted and undeserving unduly puffed; we have observed that the chief source of information is an ephemeral compilation written up two years ago, whereas the reader of such a book has a right to expect a recent and original record.

In a text-book on therapeutics recently issued, the author includes very few new remedies and neglects many old remedies. He has been praised for his conservatism. But while such conservatism is appropriate in practice, if adhered to in a text and reference book it leaves the volume incomplete, unsatisfactory and useless.

A similar book, heretofore distinguished as one of the best, has been recently revised; a cursory examination—of index and some text pages—shows that a number of popular new remedies introduced during the past few years are not mentioned; a few others are unevenly treated—evidently through misinformation; and, to our astonishment! a pharmacopeial product is not treated strictly as a definite body of standard characteristics, but the products of two competing manufacturers are compared on the author's personal experience.

There is room for a strictly impartial and competent reporter on drugs, old and new; and a book compiled by such an editor, annually if possible, would find a warm reception, we think.

Current Literature.

ANTIPYRINE IN THE TREATMENT OF DYSENTERY.—In the *Nouveau Montpellier médical* for Oct. 16th, M. Ardin-Delteil relates a case of acute dysentery in which rectal injections of seventy-five grains of antipyrine three times a day proved very serviceable.—*N. Y. Medical Journal*.

THE NEW TUBERCULIN.—The *Amer. Jour. of Medical Sciences* quotes:

Bussinius reports from B. Fränkel's clinic the results of treating nineteen patients with the T. R. tuberculin. In fifteen of the cases the cure was complete—that is, they began with $\frac{1}{600}$ mg. and increased to 20 mg. The author thinks the dose should be increased more gradually than by the method of doubling it each time. Eight of the patients gained in weight and five lost. There was quite a marked tendency to reaction after the injection, different samples of the tuberculin varying greatly in this respect. Neither blood nor albumin was ever ob-

served in the urine. Locally, there were no abscesses, but several times painful infiltrations. The cough improved twice, but no changes in dull areas could be made out. No marked changes were observed in the pharyngeal or laryngeal cases. There was a slight tendency to diminution of the swelling. Three cases of lupus seem to have been considerably improved.

GUAIACOL IN CHRONIC COUGHS.—A. Goldhammer (*Medical Record*, — *Medicine*) claims to have had remarkable success with this drug in many cases of cough of long standing, in which no tuberculous element could be recognized. He was first led to the employment of this remedy in a case in which the cough had existed for two years and numerous other drugs had been used without avail. Under the use of guaiacol daily for one month the cough disappeared, and the patient has been entirely free from it ever since—a period of ten months. Since then he has used guaiacol in every case of cough of more than two weeks' duration, irrespective of origin. He has found it of decided value in cases of chronic bronchitis with or without asthma. In the chronic coughs of children guaiacol has proved especially beneficial. He has employed it even in several cases of whopping cough with excellent results. The paroxysms were rendered less severe and less numerous, and the duration of the attack was cut short to two or three weeks. For children of a delicate temperament, who have a poor appetite and who occasionally have a slight cough, guaiacol is a valuable remedy. It stops the cough entirely in a short time, increases the appetite, and causes the patient to gain in flesh. It is his opinion that many a case of incipient tuberculosis could be prevented, if every old cough, no matter how slight, were treated by the administration of guaiacol. In acute coughs guaiacol does not act beneficially and should not be employed.

The author has recorded thirty cases of cough of varied origin and description, in which no distinct tuberculous element

could be recognized, and in which he employed guaiacol as a remedy. In twenty-six of these cases the cough disappeared entirely after the drug was used for periods of from two to six weeks. In the four remaining cases the cough was decidedly improved, although not entirely cured. Eighteen of these cases were in children under ten years; nine were in adults, three of whom were over sixty-five years of age. The article is accompanied by the history of five cases.

THE TREATMENT OF GONORRHOEAL URETHRITIS IN THE FEMALE, WITH VESICAL INJECTIONS OF PICRIC ACID.—*Annals of Gynecology and Pediatrics* (January, 1898), says editorially:

At the Congress at Moscow, Dr. Jules Chéron discussed the treatment of gonorrhoeal urethritis in the female with vesical injections of a saturated water solution of picric acid, which he had employed with success since 1870.

The patient is told to retain her urine for two hours before the injection is to be given and the solution is introduced into the bladder, where it becomes mixed with the urine. The transformation of the acid into picrate of soda and picrate of potassium in no way modifies the therapeutical action, as both these salts have the same action on the urethritis as the acid. The patient then urinates and the action of the picrates takes place during their passage through the urethra.

This solution has also been employed in gonorrhoeal endometritis and vaginitis. Exceptionally the cure of the urethritis may necessitate thirty days' treatment, but generally the gonococcus will have disappeared from the pus after three injections have been given.

The treatment of specific urethritis will often lead the physician to believe that a cure has not been obtained if bacteriological examinations of the discharge are not made, when in reality the disease has been arrested. After the gonococcus has been destroyed, a serous discharge often

persists, and the physician considers his patient as still a subject for treatment.

The technique, which is most simple, is as follows: A Braun's intra-uterine syringe, which will contain four cubic centimeters of the solution, and attached to it a long silver canula, shaped like a female catheter, is filled with a saturated water solution of picric acid. The canula is introduced into the bladder and the injection is slowly introduced into the viscus. The canula being left *in situ*, the syringe is refilled if necessary and more of the solution can be introduced.

These injections are to be repeated two or three times weekly, and the results will, according to Dr. Chéron, be found most successful.

THE POSSIBILITIES AND LIMITATIONS OF FORMALDEHYDE AS A DISINFECTANT.—Dr. Charles Harrington, of the Harvard Medical School, recently undertook a series of searching experiments to ascertain the efficiency of formaldehyde as a general disinfectant, its penetrating power, the amount necessary in a given air-space for the destruction of the different micro-organisms, and its action on higher organisms. The experiments were conducted in two of the surgical operating rooms and in the pathological laboratory of the Boston City Hospital, and the very interesting detailed report is published in the *American Journal of the Medical Sciences* for December, 1897. We quote the author's conclusions, as a valuable contribution to the already voluminous literature on this subject:

Formaldehyde has extraordinary power as a surface disinfectant, greater than that of any other known substance. It is not, however, absolutely thorough in all cases even as a surface disinfectant, as is shown by the results of the experiments in room-disinfection. Ordinary bacteria, and those of the highest resistance as well, when freely exposed to an atmosphere produced by vaporizing approximately 110 c.c. of formalin in each 1000 cubic feet of space,

are killed within two and one-half hours (Experiment 8). An atmosphere produced by approximately 290 c.c. in each 1000 cubic feet will sterilize ordinary pathogenic bacteria, such as typhoid, staphylococcus aureus, etc., within half an hour, and anthrax in from forty-five to sixty minutes, and will destroy typhoid protected by an envelope of cotton cloth in one hour, staphylococcus aureus similarly protected within two, and anthrax, also in cotton, within three hours (Experiment 6). An atmosphere of approximately 435 c.c. in each 1000 cubic feet, which would be in the proportion of about a quart to a room fifteen feet square and ten feet in height, will destroy all exposed organisms within a half hour, and others protected as above within an hour and a half (Experiment 5).

The penetrating power of the gas depends largely upon the conditions as to moisture. Through dry pervious substances, as cotton cloth, absorbent cotton, hair, etc., it appears to penetrate more or less easily, but not always in sufficient amount to exert germicidal action, as is shown by the results with the tube cultures and flasks of decolorized fuchsin, which were stoppered in exactly the same manner. In the presence of moisture the penetrating power is practically *nil*. The experiments can lead to but one conclusion, therefore, that formaldehyde must be regarded and employed as a surface disinfectant, and can never be anything else, in spite of its power of penetration under favorable conditions. This conclusion is in accord with that of Aronson, Pfuhl, Niemann, Bosc, Roux and Trillat, and Vaillard and Lemoine.

It has been asserted by a number of authors, among them Aronson, Pfuhl, and Rosenberg, that formaldehyde exerts no deleterious action on higher organisms. The results produced by the gas on the two rabbits used in the first experiment were sufficiently certain to demonstrate the falsity of this theory and to render further experiment on my part in this di-

rection unnecessary. The experience of several others, who are daily engaged in the work of house disinfection, has shown that animals, such as dogs and cats, which have accidentally been confined in rooms undergoing formaldehyde disinfection, rarely survive the operation when the latter is properly carried out. On the other hand, the experience of these same persons is that insects, such as roaches, flies, and bedbugs, are not much affected. My observations in this direction have been limited to the cases of occasional flies, and one dish of cockroaches, all of which were killed.

SULPHONAL IN THE NIGHT-SWEATS OF PHTHISIS.—Combemale and Deschemoker (*La Médecin Moderne*, Sept. 11, 1897) report good results from the use of sulphonal, in doses of fifteen to thirty grains, in the night-sweats of phthisis. The drug was given daily at bedtime and continued for two weeks. No serious symptoms were noted. In one case, after two weeks' use of the drug, there was slight intoxication, which disappeared when it was discontinued. The good effect was frequently noticeable for several days after suspension of treatment. In one patient the sweats disappeared after the third dose — *Univ. Med. Magazine*.

FUNCTIONAL ENURESIS: ITS NATURE AND TREATMENT.—Dr. James H. McKee read a report under the above title before the Philadelphia Pediatric Society recently, and publishes same in the *University Medical Magazine*, Dec., 1897. It is a practical and instructive contribution, worth reading in full. Of the treatment suggestion, which is divided into moral, hygienic and medicinal, and described in detail, we quote only the chapter on drugs:

Drugs.—One of our stand-bys in enuresis is cod-liver oil, and some of the rhabditic cases are cured by this drug alone. On the whole, we agree with Jacoby that *strychnine* is the most valuable drug in

this disorder. It should be given boldly, though we have never had recourse to hypodermic use. We prescribe for a child of seven or eight $\frac{1}{100}$ grain, three times a day, and then increase the number of pills, much as one does with mercurial pills in syphilis. Iron, quinine, and arsenic are all of use in certain cases, and may be combined with the strychnine or given alone. In mucous disease, especially when constipation be present, an alkaline mixture with senna or cascara will often stand one in good stead.

In children who sleep lightly, or who dream of the act, chloralamide in small divided doses, and sulphonal similarly used, are safe hypnotics. (Taylor.) Often three grains of either drug, given in grain doses, will prove a sufficient dosage.

In pavor nocturnus small doses of the bromides are indicated.

CHROMIC ACID IN THE TREATMENT OF GONORRHEAL CYSTITIS AND URETHRITIS.—Robbe (*Polyclinique*, 1897, No. 13; — *Centralblatt für Gynäkologie*, Nov. 6, 1897) recommends irrigation with a one-to-four thousand solution, and says that one or twice this strength may be used if no pain is complained of, but it sometimes gives rise to slight bleeding.—*N. Y. Med. Jour.*

BROMINE IN THE TREATMENT OF ENDOMETRITIS.—Nitot (*La Gynécologie*, Oct. '97) believes that the prophylactic treatment of chronic disease of the uterus and adnexa consists in prompt attention to acute endometritis. To accomplish this it is necessary to resort to some diffusible medicament which can be applied to the entire mucous surface, so as to penetrate between the folds and into the uterine ends of the tubes. He has found in bromine vapor the most satisfactory agent. It is introduced into the uterine cavity through a double-current catheter attached to an atomizer, diffuses rapidly, and exerts a remarkable curative action in cases of acute endometritis and salpingitis.—*Amer. Jour. Med. Sciences.*

SCOPOLAMINE AS A CYCLOPLEGIC.—T. E. Merrell (Denver) finds scopolamine hydrobromate is the most positive and prompt cycloplegic we have. It should not be used in a stronger solution than the $\frac{1}{10}$ of 1 per cent. Two instillations are sufficient for the most thorough suspension of the accommodation. It is free, in this strength, from the danger of increased tension, and causes no redness of the conjunctiva nor engorgement of the choroid, and no unpleasant symptoms other than those due to its physiological action on the eye. It is convenient to use, reliable in its results, safe, keeps well, and possesses fewer objectionable characteristics than any other known cycloplegic.—*Archives of Ophthalmology*, 1867, p. 335.—*Amer. Jour. Med. Sciences.*

VULVO-VAGINITIS IN CHILDREN.—This was the subject of an interesting paper read by Dr. M. Storer before the Suffolk District Medical Society, Oct. 27, 1897. The report in *Annals of Gynecology and Pediatrics*, January, 1898, says:

"The various remedies that have been recommended were spoken of, and the writer stated that his personal experience had convinced him that by far the best was the injection of graduated solution of permanganate of potassium, first suggested by Janet in 1892. The writer begins with the injection of a pint of a weak solution (1-16000) given twice a day through a soft rubber catheter (No. 10), gradually increased to 1-800 by the twenty-first day if necessary. If after four weeks gonococci are still present he alternates this with the instillation of a little two per cent. nitrate of silver.

"A case was reported in which the use of argonin had been extremely satisfactory, and the hope was expressed that further experience would show that in this drug there had been found an almost ideal remedy for these cases."

We believe that further trial with argonin will convince the author that it is effective, and much more rapid in its action than his older remedies.

CALOMEL AS A CURATIVE AGENT IN DIPHTHERIA.—Dr. Leonard D. Judd, in *The Annals of Hygiene and of Medicine*, Vol. XII., No. 11: In his paper read before the American Climatological Association, the author states that he has met with excellent results in the use of this form of mercury in the treatment of diphtheria. He insists that it should be given in large and frequently repeated doses.

To a child eighteen months old he gave ten grains of calomel as an initial dose and five grains every hour after until eight doses were given, when free characteristic evacuation occurred. He does not state how long the child had been suffering with the disease, but says that she had grown steadily worse under the ordinary treatment, and before the use of calomel was commenced was in nearly moribund condition. She began to improve, after the fourth dose, making a splendid recovery without the slightest effects following.

In another case of a woman, 35 years of age, who was inoculated with diphtheria by being scratched on the finger by a child having a malignant form of the disease, twenty grains were given the first dose, followed by ten grains every hour (giving in all three hundred and sixty grains) when copious dejections occurred. Recovery in this case was also rapid.

His method is to give these large doses until there is secured from the bowels a green, copious, frothy discharge resembling "frog-spittle." As a means of diagnosing diphtheria from other throat affections this treatment has some value, as in true diphtheria, he says, calomel is slow to act on the bowels and the more severe the attack, the larger the doses required to secure this effect. He also recommends in malignant cases local applications of an aqueous solution of calomel, but as a rule has not found it necessary to use a gargle or spray, though in ordinary cases he frequently uses diluted peroxide of hydrogen in this manner and later a solution of potash, iron, and glycerine, locally, and the same internally during convalescence.—*Internat'l Med. Magazine*.

Book Notices.

AN EPITOME OF THE HISTORY OF MEDICINE.

By ROSWELL PARK, A. M., M. D., Professor of Surgery in the Medical Department of the University of Buffalo, etc. Illustrated with Portraits and other Engravings. One Volume, Royal Octavo, pages xiv-348. Extra Cloth, Beveled Edges, \$2.00 net. The F. A. Davis Co., Publishers, 1914 and 1916 Cherry Street, Philadelphia.

A clever writer and an industrious student can make an attractive exhibit of almost any subject; Dr. Park has done this in the History of Medicine, but more—he has discovered and presented his material in such form that this book deserves special praise and wide circulation. The epitome covers the period from earliest recorded times to the present day; including biblical and historical references; introducing the notable physicians of all times—with many illustrations; following development and progress of the science of medicine; and finally, in separate chapters, giving detailed descriptions of medical men and matters in Europe and America during the last two centuries. It is a record of great interest and permanent value.

OUTLINES OF RURAL HYGIENE. For Physicians, Students, and Sanitarians. By HARVEY B. BASHORE, M. D., Inspector for the State Board of Health of Pennsylvania. With an Appendix on The Normal Distribution of Chlorine by Prof. HERBERT E. SMITH, of Yale University. Illustrated with twenty (20) engravings. 5½x8 inches. Pages vi-84. Extra cloth, 75 cents net. The F. A. Davis Co., Publishers, 1914-16 Cherry street, Philadelphia.

This volume will interest the country doctor. As the author says: "The almost absolute neglect of sanitary rules in districts outside of the great cities, and the absence of special attention to this branch of sanitation in the larger and more elaborate treatises, have called forth this work." The chapters deal with water-supply, waste disposal, soil, habitations, and disposal of the dead. Wide experience evidently prompts the author, and he writes in an interesting manner, with

many local references, which makes good reading. There is no doubt that this little work, circulated as intended, will do much to improve rural sanitation.

ESSENTIALS OF BACTERIOLOGY; being a concise and systematic introduction to the study of micro-organisms for the use of students and practitioners. By M. D. BALL, M.D., Bacteriologist to St. Agne's Hospital, Philadelphia. Third revised edition; with 81 illustrations, some in colors, and 5 plates. 5x7 inches; pp. 128. Price, \$1.00. W. B. Saunders, Publisher, 925 Walnut street, Philadelphia.

When the first edition of this eminently practical compendium appeared seven years ago it filled a want opportunely. Since then a convenient guide to bacteriological knowledge has becoming a constantly increasing necessity, which this third edition (with fifty additional pages, incorporating new ideas and methods, particularly on the subject of "Diphtheria" and "Antitoxine treatment,") will continue to fill very satisfactorily. The illustrations, many in colors, helpfully elucidate the text; and a very complete index enhances the value of the book for quick reference.

URINALYSIS, a Guide for the Busy Practitioner. By HEINRICH STERN, Ph. D., M.D., of New York. 5x7 inches; pp. 61. E. R. Pelton, Publisher, 129 Fifth Avenue, New York.

A practical little guide-book, which the general practitioner will find very serviceable in completing his outfit for simple, rapid and accurate testing, and for consultation whenever making tests of urine. "Urinalysis has become an important factor in investigating and determining disease, and although not all bodily afflictions can be diagnosticated directly by urine, there is no serious ailment which in some way or other does not cause changes in the condition of the urine" (Stern). This is a self-evident suggestion; and this little book will make such testing convenient.

HYSTERIA, AND CERTAIN ALLIED CONDITIONS. By GEORGE J. PRESTON, M.D., Professor of Diseases of the Nervous System,

College Physicians and Surgeons of Baltimore, etc., etc. Illustrated. 8 vo.; pp. 298. Cloth, \$2.00. P. Blakiston, Son & Co., Publishers, 1012 Walnut St., Philadelphia.

Few medical men will have known how rich is the literature on hysteria until this book comes to hand. The introductory historical chapter quotes references to hysteria in the writings of Hippocrates, Democritus, Aretæus, Celsus and Galen; it touches interestingly on the Epidemics of the Middle Ages, the witchcraft period in early American days, etc., and the "revivals" and "dances" manifestations of the present time.

The etiology of hysteria was effectively used in a court trial by the late General Butler; it was alleged that his client was hysterical. "Does not the word hysteria mean womb?" he asked of the medical witness who had testified as to the hysteria of his client. Of course the doctor had to admit that it did. "Well," said Butler, "I had this man carefully examined before coming into court, and he has no womb."

The author has well digested the large amount of literature on the subject, and has arranged his matter in good form, from the opening chapters on its Nature, Etiology and Pathology, through all phases to Treatment, under which latter heading electro-therapy, hydro-therapy, massage, rest cure, hypnotism, etc., find full description along with the use of drugs, etc.

The author's style is as good as his evident grasp on the subject; the book is entertaining as well as instructive. It is handsomely printed and bound, and the illustrations add to its attractiveness.

ANNOUNCEMENT.—Mr. W. B. Saunders, 925 Walnut St., Philadelphia, Pa., who is easily foremost among medical publishers in the number and variety of first-class books issued in recent years, has just published his announcement for 1898. His 16-page Bulletin describes the books issued by him during 1897, and gives preliminary outlines of this year's publications. Of the latter the deservedly popular Gould's American Year-book of Medicine and Surgery for 1898 (3d year) is now ready. Mr. Saunders will mail a copy of his 1898 Bulletin to any of our readers who will send him a request for it.

The American Therapist.

A MONTHLY RECORD OF MODERN THERAPEUTICS,

WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

VOL. VI.

NEW YORK, MARCH, 1898.

No. 9.

Original Articles.

LACTOPHENIN, AND ALLIED AGENTS: A REVIEW.

By WM. REDIN KIRK, M.D.,

Resident Physician Louisville City Hospital, 1891; Former Assistant to Chair of Gynecology in the Hospital College of Medicine, Visiting Gynecologist Louisville City Hospital, 1895; Assistant to the Chair of Materia Medica, Kentucky School of Medicine.

To do justice to a new drug, it is necessary to review its predecessors in the field, especially when they have the same therapeutical application and are as closely allied in chemical composition and physiological effect as are the different members of the coal-tar group of synthetical compounds.

Lactophenin, the recent candidate for professional favor, is like its predecessors, antipyrine, acetanilid, phenacetine and phenocoll, a derivative of the first member of the benzene series of hydro-carbons (C_6H_6), benzene, through its monoatomic alcohol (C_6H_5OH), phenol.

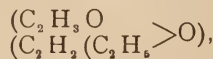
These derivatives of phenol have a similarity in physiological effect, differing in degree as they are removed from the base and modified by the inertness of the acid radical. And it would perhaps be as well to review them in their relationship to the basylous radical as it would be to take them up according to their toxicity or seniority; for *pari passu* with their introduction to the profession there is a relative decrease in the depressing effect of each new addition as they partake less of the properties of the phenol radical; this amounts to the same as considering them in the order of their clinical usefulness, only with the additional advantage of following up their chemical evolution

along with their physiological effect and clinical advantages.

Before taking up in detail the relative chemical, physiological and toxicological properties and the therapeutic applications of the different members of this group of agents, it would perhaps be expedient to consider the physiological effect of phenol (carbolic acid).

Carbolic acid is a corrosive poison, causing death in lethal doses by paralysis of respiration. The fall in blood pressure is the first characteristic, followed by vaso-motor paresis; the slowing of the heart is caused by stimulation of the end organs of the vagus. The subsequent rapid action is due to the removal of the inhibition from paralysis of the vagus.* It is also a powerful antipyretic, by virtue of its effect upon blood pressure and the arrest of oxidation. The caustic and poisonous properties of carbolic acid must exclude its use as an antipyretic, but it is well to bear in mind how it effects a reduction of temperature, so as to better understand how the same object is accomplished by its derivatives.

When phenyl-hydrazin (C_6H_5NH, NH_2) is heated with diacetic ether



the result is mono-methyl-oxyquinizine, by replacing one hydrogen atom by another methyl group (C_2H_5), di-methyl-oxy-quinizine, or antiprine, is found.

Ten years ago antipyrine was much lauded as an antipyretic, rapidly reducing temperature, and the profession felt that they had at last a safe and efficient remedy for fever. The large doses administered then produced oftentimes marked symp-

*Bartholow: Materia Medica and Therapeutics.

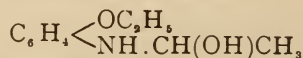
toms of depression and collapse. Antipyrine was such an improvement over carbolic acid and the salicylates that not until its indiscriminate use had caused alarming symptoms was its dose reduced and its application restricted. Upon the nervous system it acts at first as a stimulant to the cord, and then as a depressant, affecting both the motor and sensory nerve trunks. Large doses produce stupor and coma by its effect upon the cerebral cortex, and lethal doses cause death by paralysis of respiration, like its predecessor, carbolic acid. The cyanosis noticed when therapeutical doses are given, I believe, is due more to its depressing effect on respiration and circulation than its effect on the blood, as it can readily be overcome by heart stimulants. But the cyanosis present when poisonous doses are taken is no doubt due to its direct effect upon the blood. Antipyrine has been almost discarded in favor of the better and safer members of the benzene series.

Acetanilid (phenylacetamide) is the acetyl derivative of aniline; $C_6H_5NH.CH_2CO$, in which one atom of hydrogen has been replaced by the radical acetyl; or it may be considered as an ammonia in which one atom of hydrogen is replaced by phenol and another atom by acetyl. Acetanilid in equal and even smaller doses than antipyrine is as effectual in reducing temperature. Given in equal doses it does not produce the depressing effect of antipyrine and is not so liable to produce collapse. It resembles antipyrine in its diaphoretic effect, producing, in generous doses, profuse sweating. This is, however, independent of its antipyretic action, as the temperature has been observed to fall in cases where no diaphoresis occurred.* It, however, has the same disadvantages of antipyrine in acting in large doses directly upon the blood. This fact precludes it as a safe agent in all cases, especially in those that do not bear these products well.

Phenacetine, or acetphenetidine, $C_6H_5OC_2H_5NHCH_2CO$, is an acetyl derivative of amido-phenol. It is slower in its action than antipyrine or acetanilid, does not produce as much depression, and acts perhaps in very much the same manner in reducing temperature. I have noticed in administering it in doses of from eight to ten grains, even more sweating was produced than by an equal quantity of acetanilid. The diaphoresis can, however, be controlled by giving minute doses of atropine at the same time, without any effect upon its thermic properties. When diaphoresis is desired along with a reduction of temperature, I prefer either phenacetin or phenocoll to any of the other antipyretics mentioned. There is no doubt about the efficacy of this preparation, and it possesses some advantages over its predecessors, though we sometimes find the same unpleasant symptoms following its administration, viz.: skin eruption, nausea and prostration.

Phenocoll, (amido-aceto-phenetidine) acts in very much the same manner as does phenacetine, but has the advantage of being more easily eliminated.

Lactophenin is a new phenetidine derivative, containing lactic acid in place of the acetic acid constituent as in phenacetine. Chemically it is lactic-para-phenetidine, and has the formula,



Lactophenin reduces abnormal temperature, like its predecessors, by its effect upon the cord, only with less general disturbance. The fall is more gradual and of longer duration, accompanied by very decided analgesia. Usual doses do not appreciably disturb the blood pressure, and even large quantities may be given without fear of depressing the heart.

After administering lactophenin to a patient with an abnormally high temperature, you observe in a short while that the pulse becomes slightly slower, but at the same time fuller in volume; there is a general sense of relief as the temperature

* H. C. Wood: Therapeutics, Its Principles and Practice.

declines, and a soothing hypnotic effect follows that is not observed in like degree with other antipyretics. I have never observed cyanosis to follow its use, and the profuse sweating produced by phenacetine, which is often an objectionable feature, is present only in a slight degree.

Lactophenin, combining as it does, antipyretic with analgesic properties, has many advantages over other antipyretics. It is a superior agent in pyrexia accompanied by pain and restlessness, and in all chronic conditions where morphia is usually given. With it I have relieved the lancinating pains of sciatica, the nocturnal pains of syphilis, and relieved any number of young women suffering with dysmenorrhea. When dysmenorrhea is accompanied by nervousness, as is usually the case, alternating doses of lactophenin and potass. brom. will secure the best results. In conclusion, I will say that, I consider lactophenin the best and safest antipyretic in our materia medica.

*TUBERCULOUS ULCERATION OF THE SOFT PALATE.**

By SAMUEL G. DABNEY, M. D.

Professor of Physiology and Clinical Lecturer on Ophthalmology, Otolaryngology and Laryngology in the Hospital College of Medicine, etc., Louisville, Kentucky.

The following case of tuberculous ulceration of the soft palate may be interesting: The patient is a young man, aged twenty years. His mother died during his infancy, of tuberculosis of the throat, so I am told. She died after a very brief illness. He has always been delicate looking, skin yellowish and rather tuberculous in appearance. He has had, however, very little medical treatment in the course of his life, except for the fact that I removed his tonsils about a year ago. The wound from this operation healed readily.

In the early part of the past fall he consulted me for a sore throat which presented at first nothing unusual in its appear-

ance. It seemed to be chiefly in the naso-pharynx, a slight acute naso-pharyngitis which soon yielded to appropriate measures in the way of treatment. Pain was out of proportion to other symptoms manifested. Two weeks later, as pain continued and his general condition was very bad, being familiar with the family history, I sent him to his physician, as he had a slight cough, to have his chest examined. The family physician reported that there were no evidences of tuberculosis or other disease about the chest. About the same time I found a slight thickening about the epiglottis, a thickening, however, that is always suspicious. It did not at first present that peculiar turban outline of the epiglottis which is so familiar to all men who work in diseases of the throat, this being characteristic of tuberculosis. But there was a decided thickening rather at the base than at the edge of the epiglottis. My suspicions being thoroughly aroused, I requested the family to have the sputum examined to see if there were any evidences of tuberculosis in that. They were so loath to believe the disease was of that character, that they were unwilling to have the examination made.

I did not see the young man again for twelve days, when I was called to his home. The disease had progressed very rapidly and now presented appearances that were at once so typical as to leave no doubt in the correctness of the diagnosis. The epiglottis had become swollen and thickened throughout, there was considerable swelling of the arytenoid cartilages especially in the left side, constituting the well-known picture of beginning tubercular laryngitis. Meantime he had lost flesh and his temperature was 101° F. The lungs were again examined and declared to be perfectly sound. He had some enlargement of the glands in the neck, and still experienced a great deal of pain about the throat, pain on swallowing, etc.

He was taken in a few days to Asheville, N. C., and was treated there by Doctor Battle. He remained there four weeks

* Reported to the Louisville Clinical Society and contributed exclusively to the AMERICAN THERAPIST.

and returned two weeks ago to-day in a much worse condition than when he left. Upon his return I found that the tuberculous infection of the larynx had progressed but little; there was still some swelling of the epiglottis; and still some of that peculiar pyriform swelling over the arytenoid cartilages. Meantime, however, he had developed a typical case of ulceration of the fauces, clearly tubercular in its character. The ulceration involves all of the anterior portion of the palate, the anterior portion of the uvula, and is rather irregular in its outlines. It is superficial, grayish yellow in color, "wormeaten" in outline and in places studded with small granulations. This condition of things causes a great deal of pain on swallowing.

While he was in Asheville, Dr. Battle, of course, examined his sputum frequently, and reported that tubercle bacilli were present in every specimen examined.

In regard to treatment: We all know how unsatisfactory the treatment of tubercular ulceration of the throat usually is. It seems to be especially unsatisfactory in tuberculosis of the upper air passages. Bosworth states that the nearer externally that tuberculosis develops in the air passages, the more rapidly is its course fatal. This young man had the usual remedies applied before the appearance of the tubercular characteristics and with a fair amount of success apparently. Pain was relieved by the ordinary measure to a large extent. In Asheville he received applications of argonin locally, with no effect. His ulcers were then touched with iodoform sprinkled on in form of powder. This caused him great discomfort and no relief. Then a 20 per cent. solution of menthol was equally negative. On his return in the way of local treatment I have been using lactic acid in a 20 per cent. solution, increasing to a 50 per cent. solution of lactic acid, glycerine and a little carbolic acid. It is stated that lactic acid has a better effect upon tubercular ulcerations about the throat than any other application. It has had very little effect in

this case. For the first week after his return he improved both locally and generally, but that improvement has ceased and his course is still downward. Since that time I have been using a 1 to 1,000 solution of bichloride of mercury, which, so far as I can see, has produced little or no effect. I am very skeptical about the beneficial effects of local applications in these cases.

As to internal treatment: His stomach has not been in good order, and the administration of cod liver oil, it matters not in what form, seemed to Dr. Battle to be out of place. He has received all manner of stimulants, both in Asheville and here, and in sheer desperation we finally tried the oxy-tuberculine, the preparation of Hirschfield, sent out by Lehn & Fink, of New York. Before the young man returned here Dr. Battle wrote me that he thought there was perhaps some slight improvement. Within the last week, being unable to procure more of the oxy-tuberculine, I have been using Paquel's tuberculine, with what effect I do not know. My view in regard to these agents is that they are practically valueless. In order to control the restlessness at night and sweating, which has been a very annoying feature in the case, he has been given a suppository composed of codeine, hyoscyamus, quinine and atropine.

I report the case because tubercular ulcerations of the soft palate are rare, very much more so than tubercular involvement of the larynx, and because also of the rapidly fatal course that they usually run, and because of the usually unsatisfactory results under any form of local application. It is exceedingly difficult to make these ulcers heal by any means. The books state the average duration of life is not over a few months, and that the general rule is there are evidences of tuberculosis to be found in other parts of the body. In this young man's case there are probably tuberculous mesenteric glands, as he has some symptoms referable to that region.

DISCUSSION.

Dr. Wm. Cheatham:—I have never seen a case of tuberculous ulceration of the soft palate, nor have I seen a case of tuberculous ulceration about the upper air passages get well except one, and that was a young lady from Indiana, where the disease affected the inferior turbinal left side. She recovered under the local application of phenol-sulphuric acid. This remedy at that time was recommended very highly. I have only used it in this one case, and it is the only case I have seen get well where there was a tuberculous ulceration of the upper air passages. Dr. Dabney has reported this case as one of primary tuberculosis of the upper respiratory tract. In those cases where the larynx is involved it is difficult to make out any lung symptoms on account of the presence of noises in the larynx which are transmitted. I believe in most of these cases post-mortem examination reveals the fact that the lungs are already involved. The most troublesome feature is that the parts cannot get the necessary amount of rest where the larynx is involved. It has been advised that a tracheotomy be performed in order to give the larynx perfect rest, then under appropriate treatment the patients get along in a fairly comfortable condition.

I have some of the phenol-sulphuric acid left which I shall be glad to give to Dr. Dabney, if he desires to try it in the case he has reported.

Dr. S. G. Dabney:—I shall be glad to make use of the remedy offered by Dr. Cheatham. As stated in my former remarks these cases are quite rare. Bosworth says he has seen only five cases of tuberculous ulceration of the soft palate.

In this connection I want to refer to one case of cured tubercular laryngitis: The patient was a gentleman who came to see me three or four years ago, but I did not see him in his first illness. He was treated by Dr. J. M. Ray at that time. I think Koch's tuberculin was administered. He thought none of the medicinal

agents used were of much value. He took a long sea voyage, went to Jerusalem and remained there several years. When he came home there was no appearance of ulceration in the throat anywhere, but the man could not talk above a whisper. An examination showed the presence of a web of cicatricial tissue which had united the vocal chords on each side. I supposed the case to be one of old syphilitic ulceration. I am told, however, that it was unquestionably tuberculous ulceration of the larynx of great severity, which, in healing, left a web of cicatricial tissue uniting the vocal chords.

COCAINE:—A DISCUSSION.

BEFORE THE LOUISVILLE CLINICAL SOCIETY.

T. P. Satterwhite, M.D.—I would like to ask whether any of the gentlemen have used eucaïne instead of cocaine. I have used it several times, once in opening a very deep mammary abscess in a lady after confinement, and there was not the slightest pain although I had to make an incision one-quarter of an inch in depth and half an inch in width. I used a five per cent. solution of eucaïne. In another case I opened an abscess of the hip joint, making an opening four or five inches in length under eucaïne very successfully, using three or four syringefuls of five per cent. solution. It is said to be absolutely harmless.

In connection with this report, note the following from the AMERICAN THERAPIST:

"The new anesthetic Eucaïne, introduced last year, has attracted remarkable attention, and has been more extensively tested and reported on in so short a space of time than any new remedy we can recall. A majority of the reports were very favorable; but there have also been objections and cautions against indiscriminate use. An improved eucaïne, designated "B," has now been introduced, and the preliminary reports indicate that it possesses all the virtues of the original, and is free of its shortcomings. Dr. P. Silex, of the University Ophthalmological Clinic, Berlin, is one of the first to undertake exacting tests with eucaïne "B"; he reports his experience at length in the *Deutsche medizinische*

Wochenschrift, Feb. 4, 1897, and concludes his favorable report with the following summary:

"To give a general opinion as to the value of the remedy I can say, that so far as the specimens used in the University Ophthalmological clinic are concerned, it fully satisfied all the demands that could properly be made of it. Patients affected with iritis, who have already had cocaine, will probably miss that drug. The unchanged pupil is an advantage in cataract operations where the iris can be better avoided than when it is dilated; for it often becomes difficult to pass the thick mass and make the incision into the limbus. "We can recommend the employment of Eucaïne "B", and we think it deserves a place in our armamentarium. It is always an advantage if we can replace the natural product of distant lands by a scientific chemical compound."

W. O. Roberts, M.D.—I saw a typical illustration of the local anesthetic effect of cocaine last night: A little boy, aged five years, fell out of a chair and bit the side of his tongue nearly off. The child was very nervous, and the father did not want him to have chloroform, so with a piece of cotton on a match I dipped it in cocaine, shaking off the surplus so it would not be too strong, and touched around the edges of the cut, then shortly afterwards put in several stitches absolutely without pain. Four per cent. solution was used.

Some time ago I was called to a neighboring town to see a physician who was addicted to the use of morphine, and I had heard, cocaine also. He did most of his work at night, sleeping during the day. I was met by the attending physician who told me the doctor was in a very bad condition, that he did not know just what was the matter. We went up to his room, and found him with pupils enormously dilated; he was muttering to himself; he was down on the floor crawling about as if looking for something, being perfectly delirious. This was soon after cocaine came into use, and I did not know just what effect would be produced from poisoning by this drug. I am satisfied now that it was a case of cocaine poisoning. The next morning the patient was all right. There was no depressing effect upon the heart, his pulse was normal, but the pupils were enormously dilated.

William C. Dugan, M.D.—In connection with the effects of cocaine, I had an interesting case recently: A lady, aged sixty years, had an epulis of the upper jaw. I was called to see the case with the family physician and asked to remove the tumor for him. We decided to simply use local anesthesia, and injected six minims of a four per cent. solution of cocaine. The teeth were out back of the epulis, so I injected two minims inside the gums, two minims on the outside, and two minims behind the growth. The tissues turned perfectly white almost immediately, which I always regard as an indication that the parts are anesthetized; I made my incision right through the tissue injected, hoping in this way to take out as much of the cocaine as possible. I had fastened a towel around the patient's face so she could not see the operative procedure, as she was rather nervous. I had given her an ounce of whiskey to start with, so as to prevent any depression from the effects of the cocaine. I completed my incision and there was not the slightest sign of pain. I asked her if she felt it and she did not answer. I repeated the question, and noticed she moved her lips but made no response. I hurriedly removed the growth with Volkmann's Spoon, and noticed the patient was unconscious by this time. The wound was hurriedly dressed and by the time we put her in bed she was rather rigid. I examined the pupils to find whether it was cocaine poisoning or not. I found the pupils contracted; that to my mind was sufficient evidence that it was not a case of cocaine poisoning, so I felt perfectly safe. It was but a few minutes before she had muscular contractions especially of the hands, then opisthotonus, and then a convulsion. She came out of the convulsion in a few seconds, and had a delirium that was so characteristic of cocaine poisoning that there could no longer be any doubt. She had hallucinations, incoherent talking, etc. She shortly had another convulsion, and I am satisfied she had fifteen or

twenty before the trouble was over. Her pulse went up to 160 and remained so for a number of hours. Respiration was short and irregular—almost a Cheyn-Stokes respiration. There is now no question in my mind but it was a case of cocaine poisoning. Of course there must have been an idiosyncrasy against cocaine existing in the patient, and regardless of the effect produced in this instance I would not hesitate to use it in any case where indicated; but I simply report this case, pointing out the symptoms so that others may be on the lookout for them.

August Schachner, M.D.—Three weeks ago I had occasion to operate on a ganglion in the wrist of a German girl, aged eighteen years, very stout and plethoric. I did the operation under cocaine anesthesia. I judge I used about half a grain of cocaine in the injection. I had about concluded the operation, had dissected out the sac, and was closing the wound, when the girl began to show signs of convulsive seizures, but the most noticeable feature was a very rapid, short, jerky respiration. Her face became flushed, and there was also considerable cerebral excitement; she spoke in a rambling disconnected manner, and her pupils were widely dilated. The short rapid respiration lasted for about fifteen minutes. I had some nitrite of amyl and had her inhale a few drops, but it had no appreciable effect on the symptoms, which, however, gradually subsided, and in about an hour she was able to get up and go to her home.

Walter F. Boggess, M.D.—Three months ago I was called at two o'clock one morning to see a patient who was supposed to have taken an over-dose of cocaine. I found the patient delirious, talking irrationally, and from what I could gather she had taken thirty grains of cocaine at one dose. Upon further inquiry it developed that she had been taking one hundred grains of cocaine daily, and this quantity had been taken daily for several months. This was confirmed not only by the statement of her husband, but by

inquiry at the drugstore where she purchased the drug. The habit in this case was attributed to a nose man having given her a cocaine spray to be used for some affection of the nose and throat.

I saw another case of cocaine addiction not long ago, where the habit was attributed to the same cause, a spray had been ordered containing a small percentage of cocaine for the relief of some chronic nose or throat trouble. Both cases showed rapid mental degeneration, and I think of all the habit drugs none of them compare with cocaine in this particular. Anyone who has used cocaine very much in throat or nose troubles, even in weak sprays, has probably noticed a pleasant exhilarating effect from it, and it is easily seen how the habit might be formed under such circumstances. In one of the cases I have reported, the woman has since committed suicide.

Thomas C. Evans, M.D.—In my experience the cocaine habit is exceedingly rare. In most cases persons addicted to the use of cocaine also take morphine or other drugs. I know of but one case of pure cocaine habit, and am not sure but this patient also mixes in other drugs. He uses quite a large amount of cocaine in the form of nasal sprays, probably ten to twelve grains daily. That is the only case of cocaine habit that has come under my observation in ten or twelve years practice. I am frank to say that I believe the majority of cocaine habits are purely "newspaper habits," that is, they are not actual habits at all. I am sure the nose and throat men will bear me out in the statement that the effects of cocaine are very evanescent; it passes off too quickly to produce any constitutional effect. I seldom recommend it to be used as a spray, etc., by the patient himself, but if there existed conditions demanding it, I should not hesitate to so prescribe it. We are all aware of hay fever patients who use it freely during the hay fever season, and have no trouble leaving it off when the hay fever season is over.

THERAPY OF THE MYDRIATIC DRUGS.*

By J. G. MCGEE, M. D.,

Professor of Therapeutics in the Cleveland College of Physicians and Surgeons.

Belladonna, stramonium and hyoscyamus form a natural group closely resembling each other therapeutically, and each yields one or more alkaloids possessing decided mydriatic power. Although hyoscyamus is recognized as the weakest of the trio in general effect, as a somnifacient it excels. The scarlet eruption which so frequently follows the use of belladonna is seldom seen when stramonium is employed, and very rarely appears during the administration of hyoscyamus. Belladonna is the representative member of the group, atropine its representative alkaloid, and it is one of those drugs whose therapeutic uses follow very closely the line of its physiological action. Its effect on the vasomotor center is prompt and decided, while its action in arresting secretion and relaxing spasm yields most satisfactory results.

As its power of producing mydriasis is peripheral and not central in character, so also is its action in relaxing spasm, and we can thus understand its greater value when the spasm is dependent on a peripheral irritation than when due to a centric cause. Its relaxing and quieting effect is exerted on the nerves involved, either indirectly, through the medium of the circulation, or directly, as by inhalation in spasmodic asthma, or injection into the contracted muscle in spasmodic torticollis. As a rule the involuntary muscles respond far more readily to its action than the voluntary, and when these are affected it is one of our most efficient antispasmodics. Atropine, unlike hyoscine, which is said to be isometric with it, has no hypnotic power, and when sleep follows its use it is due

to its action in relaxing spasm, or to a lesser degree in relieving pain which may be a factor in producing the insomnia.

Among the most evident of the effects of atropine are those which it exerts on the vascular system, and it is certainly a most valuable remedy when the blood vessels are involved. Its use will frequently abort an incipient tonsillitis or favorably influence a superficial cutaneous inflammation, and while not very generally employed for the purpose its controlling power is very decided in hemorrhage, especially when passive in character. Severe epistaxis will frequently yield to small doses, and this is also true of some varieties of uterine hemorrhage, especially metrorrhagia. Hemoptysis requires relatively large doses—one-sixtieth of a grain or more—and while the physiological effect of the drug usually follows, the hemorrhage is generally promptly controlled.

In shock or collapse its beneficial influence on the vascular system is quickly shown—not in surgical shock alone, but in the collapse which we frequently meet in acute diseases, as pneumonia, typhoid fever, or peritonitis. Cardiac weakness and other causes may sometimes coexist in this condition, but the essential and predominant factor in its production is probably vasomotor paralysis; the cold surface, sudden fall of temperature, and relaxed vascular system all indicate this, and these symptoms are rapidly relieved by atropine, which is doubtless the promptest and most positive vasomotor stimulant we possess. While not so persistent as strychnine in stimulating all the centers in the medulla, it is more active, its effect being almost immediate in arousing the reserve energy of the vasomotor center, and these two alkaloids are probably our best agents in the treatment of this condition. Hare states that when death occurs in chloroform anesthesia it is generally a vasomotor death, and he recommends an hypodermatic of atropine before administration of the anesthetic, in order

* Read before the Cuyahoga Medical Society.—*Cleveland Medical Gazette.*

to avoid this element of danger, as the depressing effect of chloroform on the vasomotor center is probably fully as important a factor in death in such cases as the paralysis of the cardiac muscle.

The well-known action of atropine in arresting secretion generally has been applied to the treatment of exophthalmic goiter, assuming this disease to be due to an hyperactivity of the thyroid gland; and the clinical results obtained indicate more than ordinary worth. Its undoubted value in opium poisoning is due rather to its general than to its specific action, as its antidotal power lies in substituting for the coma or passive cerebral congestion of the narcotic an active or arterial congestion, as well as stimulating the various centers in the medulla which are depressed by the lethal dose of the opiate.

Homatropine is an alkaloid derived from atropine, and resembles it in action, but its effect, while somewhat similar in kind, differs in degree, and it is rarely used internally. A physiological difference exists in the fact that although atropine increases the frequency of the pulse beats, homatropine lessens it. It is useful in determining refractive errors, and while its effect on the pupil and ciliary muscle is as decided as that of atropine, it is less lasting. Its prompt mydriatic action, as well as slighter degree of toxicity, renders it preferable to atropine for that purpose, but in general ophthalmic therapy and for inflammatory conditions, atropine is probably preferred by oculists generally.

Daturin, the active principle of stramonium, practically represents its medicinal value. While rarely employed, its uses and doses are similar to those of atropine, with which it is said to be identical. Hyoscyamus yields two alkaloids, hyoscine and hyoscyamine, closely allied to each other chemically, but possessing distinctive therapeutic differences. Although atropine is the representative mydriatic, hyoscine is an hypnotic unrivalled in its special sphere of action, and possessing an extensive therapeutic range. Hyoscyamine,

weaker in mydriatic power than atropine, has great value as an antispasmodic and in quieting vesical irritation and tenesmus. It appears also to possess mild anodyne power, and is a valuable substitute for opium in children. It resembles hyoscine in general character and range of action, but is far feebler, and larger doses are required. In fact, it has been claimed that hyoscyamine is really hyoscine, rather than a separate alkaloid, and the latter has nearly supplanted it because of its smaller dose and greater hypnotic power. The official salts of hyoscyamine are the sulphate and hydrobromate, while hyoscine* is represented by the hydrobromate alone. The difference in the dose is considerable. That of the hyoscyamine is from $\frac{1}{64}$ to $\frac{1}{32}$ grain, though Peterson places its limits from $\frac{1}{60}$ to 1 grain. That of the hyoscine salt is officially stated to be from $\frac{1}{150}$ to $\frac{1}{100}$ grain, while even one-tenth of a grain has been given safely. In medicinal doses it is an efficient somnifacient sedative; in large doses, a cardiac and respiratory depressant.

As hyoscine has practically displaced hyoscyamine as a hypnotic because of its greater power and promptness, so it is infinitely preferable to morphine and other narcotics in acute mania and melancholia. The disagreeable effects so frequently following the use of opiates are almost uniformly absent after hyoscine. Another advantage it possesses lies in the fact that it can be given when renal disease exists, and opium or its derivatives would be perhaps dangerous. It is said to be of little power in epilepsy, and in general paresis and dementia to possess no advantage over chloral. It excels in controlling cases characterized by decided delirium, and especially when associated with excessive activity or muscular agitation. In severe cases of chorea, when exhaustion threatens the patient from excessive and con-

* [The German Pharmacopeia has dropped the name "Hyoscine," substituting "Scopolamine" for it, as more accurately designating the source, etc. The terms are therefore synonymous.—Ed.]

tinuous movements, the most efficient remedy we possess is probably hyoscine in large doses, and in paralysis-agitans its beneficial effects are equally evident. Some authorities assert that to produce sleep it should never be given by the mouth, but hypodermatically, while others affirm that equally good results follow its use orally.

Scopolamine, which has been recently recommended as a mydriatic in the form of the hydrobromate, is said to be really hyoscine, and to be practically identical with that alkaloid in all respects. Duboisine is an alkaloid similar in character to those already noted, and like them derived from a member of the solanaceæ. It is not very extensively employed internally, but in some forms of mental maladies possesses remarkable power. Wood thinks it is not a separate alkaloid, but that both this and daturine are mixtures of atropine, hyoscine and hyoscyamine; while Ladenburg believes it to be identical with hyoscyamine. Though these alkaloids appear to be isomeric they are evidently not identical in therapeutic effect, for, though somewhat similar, each possesses properties peculiar to itself, the difference perhaps being due to the manner of molecular grouping. As regards duboisine, while it has the mydriatic power common to all, it resembles atropine in arresting secretion, hyoscyamine in its antispasmodic action, and hyoscine in hypnotic power. Bartholow places special stress on its extreme value in puerperal mania, asserting that he has seen duboisine control such cases when all other means failed. It is best adapted to disorders characterized by mental depression, as puerperal mania, and melancholia during the menopause, while hyoscine yields better results as a rule when maniacal delirium exists. Both duboisine and hyoscine are best given hypodermatically, the dose of the former being from $\frac{1}{16}$ to $\frac{1}{8}$ grain.

FOR PULMONARY EDEMA IN CHILDREN it is recommended to give one to three drops of the tincture of strophanthus every three hours. Diuresis is produced and the edema is quickly diminished — *Med. News*.

AGARICIN IN NIGHT SWEATS.*

By RUFUS D. BOSS, M. D., Washington, D. C.

There is, perhaps, no symptom in the entire course of a case of phthisis that causes us more anxiety and annoyance than the control of the sweating and its consequent exhaustion.

Agaricin in my practice has proven to be the most successful of all drugs used in combatting this symptom, and without any disadvantages. It is not cumulative, and repetition apparently does not enfeeble its power. It is a product of the mushroom family, of the boletus variety.

Its active principle, agaricic acid, may be used in one-quarter to one grain doses. Its action is fully developed in from four to five hours, and may be maintained at pleasure by repeated small doses. The method of administering it which has given the most excellent results in my hands is as follows: Give a half-grain at the first dose and follow with an eighth of a grain every four hours until the sweating is checked, then continuing its use, but lengthening the interval, until the smallest quantity necessary to control the sweating is reached. In other words, get the patient under its full physiological effect and maintain with minimum dose. In no case was there any digestive disturbance, diarrhea or intermittent pulse noted.

Why and how it acts as an antihidrotic has not been demonstrated, and as it is given empirically it would be well to be on our guard for any manifestation of the vegetable poisons.

My experience is limited to the treatment of eight patients, but with such satisfactory results that its use will be continued in the treatment of all cases in the future to the exclusion of other remedies.

Case I.—The latter part of 1895 Mrs. A., aged thirty-two years, came under

* Read before the Washington Medical and Surgical Society.—*Maryland Medical Journal*.

my care suffering with pulmonary phthisis in the second stage, with profuse sweating. After having exhausted the list of drugs usually employed to check this symptom, being compelled to discontinue some because of cardiac or digestive disturbance, and others because they produced no effect whatever on the cutaneous system, agaricin was finally resorted to in one-grain doses at night. This only partially checking the sweating; it was then given night and morning without appreciable difference in effect noticed. An eighth of a grain every three hours was then administered with success, the interval was lengthened, until fully one-eighth of a grain three times daily proved effectual, omission for several days again calling for an exhibition.

Case II.—The same plan was followed with a like result. In all other cases the routine plan of small doses, frequently repeated, was adopted.

It failed with one of the eight patients only. In this particular instance the man died two weeks after coming under my care.

Agaricic acid, the active principle, is recommended, chiefly because the various samples of the drug differ considerably in strength.

In view of the satisfactory results obtained in the use of agaricine in checking night sweats, and our limited knowledge of the drug, it seemed to me to be worthy of the consideration of the society.

PILOCARPIN IN PNEUMONIA.—Lidmanowski reports eleven cases of pneumonia arrested by the second or third day, passing at once into convalescence, by immediate treatment with large doses of pilocarpin, dose, 0.1 gram a day. He ascribes its favorable action to the energetic leucocytosis.—*Wratsch.*—*Journal A. M. A.*

[This is not new, but simply a repetition of the results announced several years ago by Dr. Waldstein, of New York, and referred to editorially in these columns a year ago.—ED.]

DO LITHIUM SALTS REALLY REMOVE URIC ACID DEPOSITS FROM THE BODY.*

By THEODORE W. SCHAEFER, M.D., Kansas City,
Professor of Chemistry in the University Medical College,
Womans' Medical College, etc., etc.

It was in the year 1843 when Andrew Ure (1778-1857), a distinguished Scotch chemist and physician, residing in London, first drew attention to the remarkable solvent action possessed by a solution of lithium carbonate upon uric acid. He showed that lithium carbonate (unlike the other alkalies, sodium, potassium, ammonium, etc., which form comparatively insoluble urates) readily unites with uric acid forming a very soluble lithium urate. From this characteristic chemical deportment of lithium carbonate towards uric acid the idea naturally occurred to him of recommending its injection into the bladder for the purpose of dissolving uric acid calculi. Fourteen years later (in the year 1857), Dr. A. B. Garrod of London, made a practical application of the chemical affinity of lithium carbonate for uric acid in the treatment of gout and gouty diathesis, in which affections he administered the salt internally. In consideration of the low combining number of lithium, which is 7, it being the lightest of metals (spec. grav. 0.58) and of all solids and even of all liquids then known, and consequent extraordinary neutralizing power, he reasoned that it would be the ideal alkali and best adapted for the removal of uric acid from the system. Thus lithium carbonate found its entrance into medicine and was quite extensively employed, but fell into disrepute, the fate of many drugs, until Dr. Dietterich (Schmitt's *Jahrbuecher*, Bd., cli., p. 272) again revived its claims as an antilithic remedy.

As there is so much complaining and transcribing going on in these days of literary superfoetation, we need not be surprised at all that almost every writer on *materia medica*, following traditional foot-

*From the *Medical Index*, Kansas City.

steps, advocates lithium carbonate or lithium in the form of salts with the vegetable acids (for the latter as lithium salts are readily decomposed in the system into lithium carbonate), expecting the latter, on supposed chemical grounds, to unite at once and without much ado with uric acid, rendering it soluble and thus facilitating its expulsion from the body as acid lithium urate. A beautiful theory! This is at present the prevalent chemic as well as therapeutic belief, but it is erroneous.

Wonderful things have been told of the imaginary action of the salts of lithium in uric acid diathesis. It is claimed by some writers that even chalky deposits are readily disintegrated and cleared away by the supposed solvent action of lithium salts. Some transcendent writers, who claim to know so much about the true physio-chemical constitution of living organic matter and of its infinite characteristic modifications, tell us that lithium carbonate promotes the assimilation and metabolism of nitrogenous material, thereby increasing the elimination of urea. They wisely inform us that the medicinal effects of certain mineral waters are largely due to the minute, homœopathic quantities of lithium salts which they contain.

The trouble with medicine, past and present, has been a blind belief in the reputed power of remedies and in so-called authorities. And among these beliefs is the one in lithia, which is credited with wonderful lithontriptic powers. Let us examine the subject under discussion and find out whether the claims of the value of lithia salts as antilithics are real or whether they are not based upon erroneous conclusions. Dr. Henry Sewell, in an article on "Haig's Uric Acid Theory," (*The Medical News*, September 16, 1893, pages 309-313) says:

"It may be taken as an axiom in medical philosophy that no therapeutic formula is satisfactory, complete or scientific, which is not supported by a knowledge of the physiology and pathology of the processes that it is designed to modify, as well as of the bio-chemic effects of the

remedial agents employed. In medicine, however, as in other inductive sciences, generalizations are made from the association of individual facts; and as here the number of accurately observed facts is wholly inadequate to the purpose, it is not surprising that in daily practice we apply, as inductions from illfounded generalizations therapeutic agencies that act in a manner we hardly know how on pathological conditions we do not understand in the least."

Lithium is widely distributed in nature, though in small quantity. It is found in many minerals and mineral waters; in the ash of tobacco and other plants; and has been repeatedly detected in the blood and milk of animals, which fed upon plants containing traces of the metal.

Lithium is a peculiar alkali metal. The energy of the alkali metals increases with increasing atomic weight (more correctly, atomic volume); sodium is more energetic than lithium, potassium more than sodium, rubidium more than potassium, and caesium possesses more basis characters than rubidium. In lithium, then, which possesses the lowest atomic weight, it would seem that the alkaline character has not yet reached expression, and it in many respects approaches the elements of the second group, especially magnesium. (A Text Book of Inorganic Chemistry. By Prof. Victor von Richter, pages 277-8).

Caesium appears to be the most electro-positive member of the alkali-metals, rubidium the next, whilst lithium is the least electro-positive. The difficult solubility of the carbonate and phosphate of lithium constitutes the connecting link between this and the succeeding group of metals, the carbonates and phosphates of which are insoluble in water. (Chemistry, Inorganic and Organic, etc. By Charles Loudon Bloxam. pages 326, 327.)

In works on chemistry uric acid is described as a bibasic acid, forming two series of salts. The acid lithium urate $C_5H_3N_4O_3Li$ is formed in the test-tube by dissolving uric acid in a warm solution of lithium carbonate, requiring 370 parts of cold and 40 parts of boiling water,

whilst the potassium salt dissolves in 800 parts of cold and 80 parts of boiling water, the sodium salt requires 1100 parts of cold and 124 parts of boiling water, and the ammonium salt requires 1600 parts of water to be rendered soluble. The occurrence of the potassium urates in urinary sediments and calculi is very exceptional. We generally find, says Witthaus, that the arthritic calculi of gouty patients are almost exclusively composed of acid sodium urate and find the acid ammonium urate in urinary sediments and calculi.

As the urate of lithium is much more soluble than the urate of potassium or sodium, the inference was drawn to treat the uric acid diathesis with the administration of a few decigrammes of carbonate of lithium or even of mineral waters which contain a centigramme of lithium in a liter. This ingenious idea simply ignores the Law of Bertholet. We know that in the solutions of bases and acids every acid is distributed to the bases according to the proportion of their masses. Of the uric acid, therefore, the smallest quantity will be united with the lithium, and the largest quantity with the proportionally large quantity of sodium, which we introduce as sodium chloride. The largest quantity of lithium, however, will appear in the urine united with the chlorine of common salt, with sulphuric and phosphoric acids. The solubility of uric acid is not in the least increased. *(*Lehrbuch der Physiologischen und Pathologischen Chemie*; von G. Bunge, 1894, p. 330.)

Alexander Haig says of lithia :

"Though a beautiful solvent of uric acid in a test-tube, yet when given to the human subject by mouth it never reaches the uric acid at all, because it at once forms an insoluble compound with the phosphate of soda in the blood, thus removing from that fluid one of the natural solvents of uric acid, and diminishing its power of holding uric acid in solution."

And in connection with the above Osler says that this is directly opposed to the prevalent ideas of the value of the lithia compounds in the uric acid diathesis.

If a solution of a lithium salt be treated with sodium phosphate, a white, soluble precipitate of lithium phosphate is the result. Lithium phosphate, being a rather insoluble salt, requires 2539 parts of pure water to dissolve it.

Now a few words in regard to the value of lithia waters. Dr. Samuel Potter, in his work on "*Materia Medica, Pharmacy and Therapeutics*," says, on page 287 :

"Many mineral waters contain small quantities of the carbonate, varying from a mere trace to a grain (0.06) to a pint, an amount so minute as to be practically inert in comparison with the much greater quantities of potassium and sodium salts in the same waters."

There are many natural lithia waters in the market, but the amount of the metal which they contain is so small that the good effects attributed to them are no doubt due to the increased diuresis which the water itself produces. (*A Manual of Therapeutics*. By A. A. Stevens, page 182.)

Of late years sundry mineral waters have been vaunted as efficacious in these affections (gout and calculous diseases), because they contained from $\frac{1}{10000}$ grain to one grain in a pint of the spring water. Such pretensions tend to bring the art of therapeutics into discredit. (*The National Dispensary*. By Alfred Stille, and John M. Maisch, *Apharm. D.*, page 933.)

And in spite of what is written above, we find eminent physicians, who surely ought to know better, endowing lithia waters with these extraordinary solvent powers, claiming for these waters wonderfully good results in the treatment of diseases dependent upon a uric acid diathesis. Besides the lithia mineral water man the manufacturing chemist dumps upon the unsophisticated physician a large number of lithia preparations, lauding them to the skies in the circulars, his sole idea being a mercenary one.

* Translated from the German by the author.

TREATMENT OF URETHRITIS— ACUTE AND CHRONIC.*

By JOHN LEWIN McLEISH, A.M., M.D.,
of Cincinnati, Ohio.

Perhaps the most frequent class of cases in the city practice of a young physician are those embracing the various affections of the genito-urinary system. I think hardly enough attention is given in the curricula of our colleges to the scientific treatment of the various forms of urethritis and the many unlooked-for complications and obstacles. The field offers such wide scope for empiricism; the auto-dium of the patient makes him a ready and willing victim in the hands of the so-called "venereal specialist," that many a confiding patient is irreparably wronged. Again, the variety of new prescriptions containing "specific injections" that flood our medical journals is apt to mislead the young physician and develop a chronic trouble, most difficult to contend against. Only last year, the writer having seen in five different journals of excellent repute a highly commended prescription containing methyl salicylate, bismuth sub-nitrate and liquid vaseline, availed himself of an early opportunity to employ it as an injection. In about five days there appeared a well-developed peri-urethral abscess in the neighborhood of the fossa navicularis, which greatly enhanced the difficulty of the case. This and a few other experiences have developed in the writer a possibly justifiable skepticism on new suggestions in the treatment of gonorrheal urethritis.

Having had exceptionally favorable results, from a basis of treatment, employed successfully in seven cases during the past few months, the writer has felt emboldened to make brief mention in this paper.

H. S., aged twenty, consulted the writer, who found well-developed symptoms of acute gonorrhea, reddened meatus, ardor

urinæ, inflamed urethra, mucous discharge, etc. Microscopic examination confirmed the diagnosis.

Treatment as follows:

R	Spts. ætheris nitrosi,	} aa... 3ss
	Balsami copaibæ,	
	Spts. lavandulæ co.,	
	Liquor potassæ.....	3j
	Mucil. acaciæ, q. s., ad.....	3iv

Of this a tablespoonful ter in diem.

At night I directed the patient to insert a urethral bougie about four inches long, composed of eucaine hydrochlor., gr. $\frac{1}{8}$; sulphate zinc, gr. $\frac{1}{4}$; boric acid, grs. ij; aristol, grs. iij; retaining it in the urethra over night by means of a cotton wad and gonorrhea-bag. During the day, I directed an injection of oxide of zinc, 3 ij, ad 3 iv aquæ. At the end of the third week the discharge and attendant symptoms ceased, and three days later the patient was discharged.

In all of the other cases nearly as favorable results ensued, and I attribute to the urethral suppository the avoidance of many a *bele noir*, often attendant upon a urethritis. My reasons are that the suppository comes into direct and more lengthy contact with the morbid surface than were the injection the only means of medication. It is simple of employment and acts as a gentle dilator, thus anticipating the more forceful dilatation by the Oberländer method.

I am not advocating any new method of treatment, but rather adhering to the old stand-byes of our fathers; only I have desired to attest to the invaluable merits of the suppository as an adjunct to the injection.

Another injection from which I attained excellent results was the permanganate potassium, gr. $\frac{1}{8}$, and 3 iv aquæ. But this also I supplemented with the use of the urethral bougie or suppository. Of course, when the acute stage has developed into a chronic urethritis I think medication is fruitless, or nearly so, as the only hope of attaining a cure is through careful urethroscopic examinations, followed by dilations and irrigations, as exhaustively dwelt upon by Dr. Valentine in a recent article.

* From *Cincinnati Lancet-Clinic*.

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Subscription Price, - - \$1.00 per annum.

PUBLICATION OFFICE, 73 TO 79 FULTON ST., NEW YORK.

Address all communications to

THE AMERICAN THERAPIST,

P. O. Box 1170.

New York City.

Vol. VI.

MARCH, 1898.

No. 9.

Editorial.

SPECIALISM.

One of the most characteristic developments of modern medicine is the specialist, and one of the greatest problems that confronts the medical profession, individually and collectively, is how to deal with the specialist. Division of labor is a great economical necessity of advancing civilization, yet we must always guard against the possibility of so complete a separation of the departments of industry that we lose sight of the connexion and are no longer able to unite the parts into a useful whole.

The origin of specialism is a low one. No more flagrant piece of quackery can be imagined than the announcement of the Chamberlains of their discovery of forceps, yet these men were the fathers of scientific obstetrics. The peripatetic pile quack was the forerunner of the officialist; the traveling eye-tester was the precursor of the oculist; even the surgeon was, two or three centuries ago, accounted an undignified menial of the medical man. But it is not wise nor right to deny the beauty of a flower because the root of the plant is sunk in the dirt. Whatever specialism has been, we must judge the present by the present and give our verdict fairly.

All things considered, the general medical profession has, so far as public acknowl-

edgement is concerned, dealt more than fairly with the specialist. The old rule of ethics that no physician should make pretense to special skill in any line of practice and announce himself to the laity, however privately, as possessing unusual ability in any direction, has been laid aside. The rule that the consultant should not retain charge of a case, has likewise yielded to the just demands of the operator. The general profession has, in the main, given to the specialist a larger and a more lucrative practice than its average. It has likewise admitted almost unasked, the superior status of the specialist, and has, from time to time, changed its conception of general practice so that the only permanent definition of the latter has come to be the remainder of practice after the various specialists have chosen their shares. General practitioners have frankly spoken of specialism as a promotion, have excused themselves for not attempting to throw off general work for a specialty, have regarded limitation of practice as the natural and proper course for a man of exceptional ability and ambition, have spoken of general medicine as a survival of mediæval times, shortly to pass away and to be followed by a state in which its only representative shall be the man who sorts out the cases for the various specialists, and, perhaps, renders temporary aid.

All this has fostered the temptation of the lazy and ambitious to seek the shortest possible cut into specialism, it has engendered a counter feeling of hostility to the specialist, it has been productive of friction as deplorable as it is irrational. The lay conception of the profession as segregated into little cliques, has kept alive the embers of sectionalism which would otherwise doubtless have lapsed in cold ashes, and it has been skillfully trained by advertisers into a support of the worst and most open forms of commercial quackery.

It is, perhaps, quite as much the fault of the general profession as of specialists,

that the honest specialist sometimes blushes at the name and hastens to explain that he is not the kind of a specialist, who publishes wood-cuts of prominent citizens cured of catarrh by his treatment, and that he is not the kind of a specialist who takes from all and yields to none. He may also feel called upon to remark that he preceded his limitation of practice by a period of practical work in general medicine and that he is not the exotic of the post-graduate hot house.

If we go far enough back in history, we shall find that the physician is merged with the priest, and, as we come to more modern times, we find that at least three professions, those of druggist, dentist and nurse, have been drawn from the common stock of medical art. On the other hand, midwifery, which at one time existed as a well recognized and independent branch, has again been claimed as part of the function of the physician. In all cases in which the general and the special come into conflict, the latter must yield, unless it can furnish good evidence of superior privilege on the ground of the welfare of society at large. Otherwise, the general includes the special and may exercise the functions of the latter at will. Thus, when the physician says to the pharmacist, dentist or nurse or any other derivative, "You must not go beyond the narrow limits to which you have voluntarily committed yourself," none of the latter can demand that the physician shall refrain from entertaining at will upon the same ground, unless by showing that he trespasses, not on their assumed rights but on the right of eminent domain which society at large can never deed away. When, for the sake of convenience and to save time, any part of the medical territory is granted to one who is not required to become familiar with the whole, the paramount right of generalist over specialist, is not only a moral but a legal one. When, however, a man entitled by the fulfilment of all requirements to access to all parts of the medical domain, volun-

tarily limits himself to a restricted area; it is obvious that he does so as a matter of convenience and self-interest and that a certain amount of reciprocity is demanded. He certainly has no right to demand that every one else shall keep off from the little plot that he has staked out for himself, and, on the other hand, it must be conceded that he is making a sacrifice in keeping off from outside parts and that he can not be expected to adhere to his self-appointed limits if others are so discourteous as to allow him no opportunity to cultivate the soil he has selected, or if they are so dishonorable as to rob him of the crops which he has planted and cultivated.

It seems to us that the development of specialism has nearly reached its limits of practical usefulness. Other departments are gradually being added, but the role of the family physician must remain the important one. For country and village, only the least emergent diseases and abnormalities can wait for the ministrations of the specialist and general practice is an economic necessity. Even in the city, the majority of troubles of average severity are best treated by the doctor who knows the temperament, the heredity and the habits of his patients. Especially is this true of the numerous conditions in which personal and moral influence must supplement strictly medical care. In few instances is it desirable or proper that the same man should be both generalist and specialist. It is not fair to his patients that he should care for those whose ailments he must consider as side issues, while it is impossible for any but an intellectual giant to do justice to both general practice and a modern specialty. It is not fair to his colleagues that he should enter into competition with them in a double way. It is not fair to himself that he should be balanced between pretensions and deeds, or that his energies should be scattered. Local or other peculiar conditions may overrule these con-

siderations in certain instances but their general applicability is undoubted.

The whole problem is one of honesty and fairplay. Let the specialist acquire the skill he ought to possess; let the generalist take the general practice which is actually or potentially relinquished by the specialist, and, in return, let him yield to the former, the cases that demand special treatment. In short, let each learn to grasp with one hand and to let go with the other.

Current Literature.

ORTHOFORM IN TUBERCULOUS LARYNGITIS.—Neumayer announces that orthoform will relieve the pain which renders swallowing difficult in tuberculous laryngitis, buccal ulcerations, cancer of the tongue, etc. The substance can be insufflated, or the surface painted with a 10 per cent. solution of the hydrochlorate, renewing the application as often as necessary, orthoform being non-toxic.—*Journ. A. M. A.*

PERTUSSIS TREATMENT.—Dr. J. Madison Taylor, Professor Diseases of Children, Philadelphia Polyclinic, thinks that antipyrine is of great value in the treatment of pertussis. The average dose to a child is from one-half to one grain every three hours. Formula employed:

R	Antipyrine.....	gr.	$\frac{1}{2}$ -1
	Ammon. chlor.....	gr.	$2\frac{1}{2}$ -5
	Syr. limonis.....	dr.	$\frac{1}{2}$
	Aquæ q. s. ad.....	dr.	1
or R	Antipyrine.....	gr.	$\frac{1}{2}$ -2
	Ammon. brom.....	gr.	1-2
	Ammon. mur.....	gr.	5
	Syrup q. s. ad.....	dr.	1

Ipecac, squill, senega or tolu may be added to the above if desired.—*Pædiatrics.*

OVER-FEEDING OF INFANTS.—The great principle at the bottom of all successful feeding, viz., that an infant is nourished in proportion to his power of digesting the food with which he is supplied, and not in proportion to the quantity of nutritious material he may be induced to swallow, is so obviously true that an

apology might almost seem to be required for stating so self-evident a fact; but experience shows that this simple truth is one which, in practice, is constantly lost sight of. That that infant thrives best who is most largely fed, is an article of faith so firmly settled in the minds of most persons, that it is very difficult indeed to persuade them to the contrary. To them, wasting in an infant suggests the need of a large supply of food; its every cry means hunger and must be quieted by additional food.—*Archives of Pediatrics.*

THE TREATMENT OF TONSILLITIS.—D. J. Griffith Davis, in an article in the *Poly-clinic*, advises the following external application:

R	Tinct. iodine.....	ʒj
	Fl. ext. belladonna.....	ʒij
M.	Sig.—Paint over swollen parts as needed.	
Cover this with an ointment, as follows:		
R	Acetanilid.....	
	Menthol crystals.....	āā ʒ iss
	Lanoline.....	
	Ung. aq. rosæ.....	āā ʒ ij
	Ol. amygd. dulc., q. s.	

This is to be put on after the iodine has dried, so as to prevent the skin blistering, and to relieve any pain present. The painting is to be repeated when the discoloration disappears.

THE VALUE OF EUQUININE AS A TASTELESS SUBSTITUTE FOR QUININE is confirmed by the experience of the Milan hospitals, where it has been tested on a large scale. Pangrossi also reports fourteen cases treated with it. The conclusions are as announced, that equinine possesses the same specific and general properties as quinine, in the same intensity, and should be administered in the same doses. The disturbances caused by quinine intoxication do not accompany the use of equinine, and it has also been found a stimulant to the appetite. A bitter taste develops if held a long while in the mouth, which justifies the assumption that in the stomach it has the tonic property of a bitter substance.—*Gazz. degli Osp. e delle Clin.*, No. 136, 1897.—*Jour. A. M. A.*

IVY-POISONING.—Schonberg (*Philadelphia Polyclinic*, October 16, 1897) says that none of the remedies used in the treatment of ivy-poisoning are specific. All of them are designed to relieve the itching and burning and subdue the inflammation. Of almost equal value are: (1) saturated solution of boric acid; (2) fluid extract of grindelia robusta, 1 dram to 4 ounces of water; (3) aqueous solution of sodium hyposulphite, 1 dram to the ounce; 4 Laborraque's solution, 25 to 50 per cent.; (5) black wash, diluted one-half with lime water; (6) bromin, 10-15 minims to 1 ounce of olive oil.—*Medical News*.

EXALGINE.—From a study of the analgesic properties of exalgine made by Dr. Desire, at the Hospital Lariboisière, the conclusion was drawn that, aside from any antithermic action, the product is an admirable specific against pain. It was employed in a great variety of apyretical affections with uniform success. The doses of twenty-five centigrammes, or about four grains, was found sufficient for most cases, but it can be pushed to double or treble this quantity, though as much as a gramme is scarcely ever necessary. If medicine rarely cures, it should at least always console, and sometimes relieve, and with exalgine the author thinks great relief can often be given.—*Indian Lancet*.—*Cincinnati Lancet-Clinic*.

THE TREATMENT OF PSORIASIS.—Norman Walker (*Quarterly Medical Journal*, July, 1897) states that for the scalp, if there is much inflammation, the local treatment may be begun with weak ammoniated mercury ointment, five grains to the ounce, the strength being increased by degrees. Sulphur and salicylic acid are of great value, more suitable when irritation is not so severe. They should be used from ten to thirty grains to the ounce, either together or separately. For the disease involving the general surface, bathing in warm water is well spoken of, followed by (where the patches are few

and not inflamed) chrysarobin in liquor guttæ-perchæ or tar in collodin, twenty grains to the ounce. Unna's compound chrysarobin ointment is praised. It consists of chrysarobin, 5 parts; salicylic acid, 2 parts; ichthyol, 3 parts; petrolatum, 90 parts. The four internal remedies recommended as being the most valuable are arsenic, potassium iodide, sodium salicylate, and thyroid gland. Caution is given against employing the last-named. It should be reserved for grave cases, and should be used with caution.—*Amer. Jour. Med. Sciences*.

DR. HELLER finds that the addition of a small amount, say $\frac{1}{40}$ grain, of arsenous acid is of material aid in *preventing* the appearance of *drug eruptions*, as of the bromides, salicylates, iodides, etc.—*Phila. Polyclinic*.

TREATMENT OF SCIATICA WITH HYDROCHLORIC ACID.—The painful spot is painted with acid. hydrochlor. pur. with a camel's-hair brush, two to four coats. It smarts a little, but the pain is relieved at once and radical cure follows in one to three weeks. Small blisters are apt to form and in painting the surface the second time, twenty-four to forty-eight hours later, the blistered spots must be avoided.—(C. Gen-natas, twelve cases; *Therap. Woch.*, November 7.)—*Journal A. M. A.*

CREOSOTAL IN PHTHISIS.—Dr. Paul Jacob, of the Royal Charité Hospital in Berlin, reports his special clinical trial with creosotal in over fifty cases, of which 28 remained sufficiently long under observation to give data of value.

The usual dosage was 5 drops pure, three times daily, in the beginning; increased by 3 drops daily until 25 drops were taken three times daily, and this maintained for from 1 to 4 weeks. Later, according to conditions, the dosage was reduced and again increased, until discontinued entirely.

In conclusion the author states, that his observations are in general in accord with the results obtained by other investigators.

In spite of the danger of being too optimistic in regard to a disease so changeable as phthisis, the author firmly believes that his observations show a specific action of creosotal in it. The influence upon the fevers and night sweats, which is the ordinary criterion of the effect of an anti-phthisical remedy, was very marked. Moreover a number of the patients had been under treatment with other forms of creosote, etc., before they came under his care, and had been rather harmed then benefitted; whilst under creosotal they immediately began to improve.

Every case of beginning or not too far advanced phthisis can be benefitted by creosotal. Naturally it must be aided by an appropriate dietetic and hygienic course. And it is the especial advantage of creosotal as compared with creosote that by reason of its favorable influence upon the appetite and non-disturbance of the functions of the gastro-intestinal canal, a proper dietetic treatment can be fully carried out.

IN a case of *acute gastro-intestinal catarrh* in a colored girl of twenty, presenting herself at the clinic of Dr. Eshner, relief was afforded by the administration every three hours of seven and a half grains each of bismuth salicylate and aromatic powder.—*Phila. Polyclinic*.

CITRATE OF SILVER (CRÉDÉ).—At the Twelfth International Medical Congress, in the Section of Surgery, August 23, 1897. Professor Cr   , of Dresden, reported in substance as follows (*Deutsche Medicinische Wochenschrift*, October 28, 1897, p. 211): After long experimentation he had found that the Citrate of Silver best fulfilled the conditions required of an antiseptic for the treatment of wounds. His opinions and the results that had been obtained by the method had been published, and were well known. Cr    then considered the use of Silver in certain infectious diseases. The fact that the Citrate of Silver greatly diluted is soluble in the serum of the blood and is non-poisonous,

suggested to him the possibility of its use for the general disinfection of the body. The subcutaneous injection of 0.5 gram ($7\frac{1}{2}$ grains) of Lactate of Silver occasioned aseptic necrosis of tissue; hence silver could not be used in that form. After overcoming many difficulties Cr    succeeded in obtaining a metallic silver preparation which was permanently soluble both in water and in albuminous fluids. When this preparation is inuncted in the form of a salve for from 15 to 30 minutes, it gets into the lymphatic channels and circulates dissolved in the body. In sterile lymph and sterile blood it remains in the condition of metallic silver. In the presence of pathogenic germs or of toxins it enters into some as yet unknown combinations, and acts either as a bactericide or as an antitoxic agent. The use of the silver preparation causes no local changes. Cr    and the physicians associated with him treated over 100 cases affected with the most varied septic diseases with the remedy. The first inunction was made in the evening, and the second upon the following morning, and no other measures were employed during this time. The amount of the salve used in the adult was as a rule 3 grams (45 grains); for boys 2 grams (30 grains), and for little children 1 gram (15 grains). The inunctions were practiced upon a part of the body far removed from the site of the disease. Lymphangites, phlegmons, septic  mias, phlegmonous anginas, and septic complications of scarlatina and diphtheria were treated. In all the cases a remarkably favorable effect was apparent in from 5 to 30 hours. The general condition improved; the fever fell within 24 hours; and rapid retrogression of the septic process set in. Almost hopeless cases rapidly improved. In cases of erysipelas the mixed septic infection got well, though the skin lesion persisted. Cr    believes that the preparation is a remedy of the very greatest importance, being capable of disinfecting the entire body; and he affirms that it is one that has never failed him in septic cases.

Book Notices.

TUBERCULOSIS OF THE GENITO-URINARY ORGANS, MALE AND FEMALE. By N. SENN, M.D., LL.D., Professor of Surgery and Clinical Surgery, Rush Medical College; Attending Surgeon to Presbyterian Hospital; Surgeon-in-Chief, St. Joseph's Hospital, Chicago. Illustrated. Philadelphia: W. B. Saunders, 925 Walnut street, 1897. Price, \$3.00 net.

This is really a very satisfactory treatise on an important subject, and concerning which available information and literature is very limited. The author has gathered data from a great number of authorities, and quotes voluminously with direct references to originals; he has arranged the matter systematically, in his own didactic form, with addition of the results from his own clinical observations. There are many excellent illustrations, including colored plates. The mechanical make-up (paper, press work and binding) is substantial and handsome.

THE DISEASES OF WOMEN. A handbook for students and practitioners. By J. BLAND SUTTON, F. R. C. S. Eng., Surgeon to the Chelsea Hospital for Women; Assistant Surgeon, Middlesex Hospital, London; and ARTHUR E. GILES, M.D., B.Sc. London, F.R.C.S., Edin., Assistant Surgeon, Chelsea Hospital for Women, London. With 115 illustrations. Philadelphia: W. B. Saunders, 925 Walnut street, 1897. Price, \$2.50 net.

It is characteristic of this volume that the Preface consists of seven lines, and is ample and neatly phrased as an introductory. The text of the whole work is similarly terse and yet admirably comprehensive; the language is direct, without useless verbiage. The science and art of Gynecology is presented lucidly, "useful to students for examination purposes" and no less valuable as a reference book and prompter for the practitioner.

The illustrations number 115, and help wonderfully to elucidate the text.

The book is compact, well printed and attractive. It is a useful book for the general practitioner.

EYE-STRAIN IN HEALTH AND DISEASE. With Special Reference to the Amelioration or Cure of Chronic Nervous Derangements Without the Aid of Drugs. By AMBROSE L. RANNEY, A.M., M.D., Author of "Lectures on Nervous Diseases," "The Applied Anatomy of the Nervous System," etc., etc.; Late Professor of Nervous Diseases in the Medical Department of the University of Vermont and of the Anatomy of the Nervous System in the New York Post-Graduate Medical School, etc. Illustrated with 38 Wood-cuts. One Volume, Royal Octavo, pages viii-321. Extra Cloth, Beveled Edges, \$2.00 net. The F. A. Davis Co. Publishers, 1914 and 1916 Cherry St., Philadelphia:

The importance of this subject, "Eye-strain," has been made manifest to the profession during the last few years by a constantly increasing number of careful dissertations, by many esteemed authorities, in our leading medical journals. The author has been prominent in disseminating knowledge on the subject, by means of monographs published in the medical press during the past ten years. These monographs form the nucleus of the present volume, amplified by much new matter, the latest observations and conclusions, all welded into a complete treatise which covers the ground fully.

Typical cases are quoted in detail, "illustrating remarkable results of eye-treatment alone," and these will interest the general practitioner because they are such as he finds duplicated in his own practice daily.

Three facts are specially emphasized in the preface: "That none of the cases here reported took any drugs while under the author's care, that they were chronic cases which had received no benefits from medication under skillful hands, and that many of them were made absolutely well by eye-treatment alone."

It is not only an interesting book, but it is sure to prove instructive and of advantage to the practitioner who will study it closely and profit by whatever is suggestive in it.

Numerous good wood-cut illustrations embellish the volume; the printing is in the distinctive style of the Davis Co., large, clear type on good paper.

The American Therapist.

A MONTHLY RECORD OF MODERN THERAPEUTICS,

WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

VOL. VI.

NEW YORK, APRIL, 1898.

No. 10.

Original Articles.

URIC ACID POISONING.

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The subject of the following remarks is one which until recent years has been sadly neglected, but now it would seem that we have a plethora of literature about the effects of uric acid; and when we read that literature, we are struck with the great diversity of opinion held by men who are acknowledged to have made a special study of this very important and interesting subject, and who have carefully weighed their *pros* and *cons* before rushing into print.

It would therefore seem presumptive, on my part, to advocate certain theories which I have formed, but I have done so because they are founded on facts culled principally from a painful personal experience of uric acid poisoning.

In '93 I published an article entitled "The Therapeutics and Treatment of the Uric Acid Diathesis." The word diathesis, meaning "a constitutional predisposition to disease," I am inclined to believe is a misnomer as regards uric acidæmia, as the great majority of such cases arise *de novo* and are almost always under control of the patient, if he or she is intelligently instructed in the proper prophylactic means and rigidly carries them out. In that paper I gave a detailed account of the various symptoms of a case of uric acid poisoning in a girl aged ten years. Although her father was gouty, none of her brothers and sisters ever had the same symptoms that she had. I found out, however, that this child had a ravenous appetite for sweet things and

meat, and devoured them on every occasion on which she could obtain them. When the sweets and meats were denied her, the disease gradually disappeared.

The latest authority of prominence, Dr. A. Haig, seems to be, as regards his own mode of living, a vegetarian, and in his latest book upon this subject is inclined to advocate the same diet for others, simply because in his case he has been benefitted by it. In this diet he allows sugar, fresh fruit, pulse, oatmeal, and other cereals, cheese, milk, bread and jam; omitting all meat, fish, fowl, game and eggs, also wines, beers, and alcoholic drinks. He also gives the exact quantities of food to be consumed, so that the amount of 3.5 grains of urea per pound of body weight per day is excreted, as found by experiments upon himself to be the normal quantity for a healthy existence. He varies the amount according to whether he is leading a sedentary or an active life. The rule he lays down is, "find the body weight in pounds; if there is much adipose tissue, deduct it: that is, take the weight of the individual before he began to get stout, multiply by 3.5 and the resultant by 3, and you will have the amount of albumen in grains that he will have to consume each day."

Dr. Fred. Roberts, another acknowledged authority on the subject, allows meats, eggs, game, fowl, sweet breads. He objects to certain vegetables, such as tomatoes, asparagus and rhubarb; allows dry sherry, claret, hock, Moselle, Sauterne, Chablis and whisky, well diluted.

When we read those dietaries advocated by two of the foremost authorities of our day, and note how diametrically opposed they are one to the other, we are inclined

to think that a correct knowledge of uric-acidæmia, especially as regards its treatment, is still at a far distance, and that in writing about this disease it is better to stick to the facts as obtained in each separate case, and not lay down a cast-iron rule for diet or other treatment in all cases.

As a good example of a case of uric acid poisoning, I may quote my own personal experience. For several months previous to an attack of violent pain in my left ankle, which occurred in June of last year, I had the following symptoms: An inclination to drowsiness, especially after food, frequent flushing of face, feeling of fullness in the head, frequent attacks of migraine, lassitude with a desire to sit down, and when sitting, a desire to lie down, a dull aching in the front of the thighs, and a sensation of weight in the legs when going upstairs, and a feeling that I might fall backwards, persistent constipation, tongue generally coated, the lips and skin of hands had a very acid taste, hearing and vision not so acute as previously, a difficulty in concentrating my thoughts, a bad memory, intermittent pulse, always above 80 beats per minute, distension of abdomen after food, and nervous apprehension. Such are the most prominent symptoms, which I shall ever vividly remember.

The ankle remained very painful for one week, notwithstanding I took colchicum, salicylic acid and lithia, and drank abundance of water. I, however, continued my usual mixed diet of meat, fish, vegetables, fruit, sweets and bread. Although the severe pain gradually left, the other symptoms still continued. I took lithia and salicylic acid daily throughout the summer and fall. From the beginning of October I took no red meat, but used oatmeal, fish, poultry, vegetables and sweets. Toward the middle of October, I was seized with a violent pain in my left knee, followed one day afterwards by a pain in my left wrist. This condition lasted four days, when I was once more

able to go about for one week. At the end of that time I was attacked by a pain in my right ankle which again laid me up for several days. Still the tired, weary feeling continued, although the headaches were less frequent. But early in December I was again attacked by pain, this time in right wrist and elbow, besides pain in the intercostal muscles and suppurating sore throat. I then took wintergreen, salicylic acid with bicarbonate of soda, and colchicum on alternate days. Nothing seemed to give me relief; I could neither eat nor sleep, and lost 31 pounds in 21 days. On the 22d of December a pain commenced in my right thigh just above and to the outside of the patella, over which spot a tumor, the size of a large egg, was visible. Neither the medicine I had taken nor the diet seemed to do me any good, so I determined to try the Hot Springs of Virginia, and after many trials and much tribulation I reached there on the morning of the 24th of December, when I was carried out of the cars, wheeled to the Hotel and put to bed.

Instead of now describing the treatment I had there, I will first give a description of these Springs. They are situated on a plateau between the Alleghany ridge and the Blue Mountain ridge, 2195 feet above sea level. Within a few hundred feet from each other there are the spout bath Alkaline springs, with a temperature of 106° F.; a Sulphur spring, 100° F., the Boiler (bath) spring, 108° F.; the Alum spring, cold; the Soda spring, temperature 74° F.; Magnesia spring, 100° F., and Lithia spring. Seven in all.

The spring used for the tub bath is the Boiler spring, and when it reaches the bath it has a temperature of 104½°; the temperature is always the same, as the water runs through iron pipes and does not see the light of day until it is in the bath. As an Alkaline bath it is much stronger than any of the hot springs now used medicinally throughout the world. The most world-renowned baths for the treatment of uric acid are two at Aix-les-Bains,

one at Hot Springs, Arkansas, and the Hot Springs at Virginia. The Sulphur Hot Springs at Aix-les-Bains contain 16.88 grs. of alkalies per gallon; the Alum Spring at the same place, 24.39 grains per gallon; the Hot Springs of Arkansas, 11.25 grains per gallon; the Hot Springs of Virginia, 41.37 grains per gallon.

If it is the alkalies that do the good in uric acid poisoning, then the Thermal Springs of Virginia are certainly far and away the most powerful. The method of using the baths is as follows: The patient is ordered to have a tub bath of a certain temperature, say 100° or 104°. (I may state here, that the reduction of temperature is not accomplished at the expense of the alkalinity of the bath, as it is lowered by admitting water from one of the colder alkaline springs.) He is allowed to lie in the bath from 6 to 15 or 20 minutes, as is considered suitable by the attending physician. Whilst in the bath the bathman thoroughly rubs the limbs and body beneath the water, at the same time a towel soaked in ice-water is placed on the forehead. When he leaves the bath a warm sheet is wrapped around him, and he is laid on a cot with three or more blankets over him for 12 or 15 minutes. During this time more or less profuse sweating occurs. He is now dried with a rough towel. The soles of the feet and the chest are slapped by the bathman. Alcohol is sprinkled all over the body, and the muscles are well rubbed and kneaded. The rule is that a bath is taken for three consecutive days, and then an interval of one day—generally by the end of the third day, there is a tired, weary feeling and, if there were pains they have vanished. On the fifth day another bath is given and, if the patient has any uric acid left in combination, pain more or less severe is certain to attack the place where it is located. In my own case, although I had great pain in several joints during the days I took my first three baths, I had immense relief by the beginning of the fourth day, but at the end of the fifth day (my fourth bath) two

other joints began to pain and I was unable to be moved to the bath for several days. This same procedure was continued until I had five joints affected, when the pain gradually disappeared and I had nothing left to tell the tale but stiff joints. I should have mentioned that when the bathman was massaging the deep muscles of my arms and legs he touched several spots which gave me great pain which he said were accumulations of uric acid or more likely bi-urate of soda. Now, I, like many others, had a prejudice against Thermal baths, as I had never seen much good accrue from artificially medicated baths. The water in these particular baths is constantly moving, as it runs in from the spring and out by the overflow pipe the whole time the patient is in them. I have a theory regarding the beneficial effects of these natural Thermal baths. It is this: that the water charged with mineral ingredients constantly flowing in and out causes what I may term an hydraulic massage, or surface-friction. We know that massage or friction of any kind causes a determination of blood to the surface and the capillaries are congested and consequently their walls thinned. We also know that a congested part more easily absorbs than a part not congested; therefore the whole surface of the body is in a condition to absorb the mineral ingredients and thus pass them into the capillaries and through the whole system.

It may be suggested, that the alcohol rubbing and sweating would drive all out that was absorbed, but this is not so, as no amount of sweating or rubbing would drive out what has been taken up by the circulatory system. This theory seems to me based on facts, as I have seen patients unable to walk from contracted muscles of the legs and unable to use their arms from the same cause, in the course of not many days regain the use of those limbs. I don't claim for these baths the power of curing or even of relieving all cases. When the ends of the bones are denuded

there is little or no hope for the sufferer—or even when ankylosis is of long standing, but if it is caused by deposits of bi-urate of soda some relief may accrue; I am certain that in cases like my own, when I was suffering from the poison of uric acid which had not been eliminated in sufficient quantities for a long time, good will surely follow their use.

All cases of uricacidaemia ought to have careful, thorough and frequent examination of the urine.

When I commenced the treatment only four and a half grains of urea per ounce of urine were discovered and one-tenth of a grain of uric acid per ounce of urine. Now, the normal proportion of uric acid to urea is one to thirty-four, but in my case it was one to forty-six. Both the uric acid and the urea were below the normal quantity; Sp. gr., 1007; reaction, acid; chlorides, 3 grs.; albumin, none; sugar, none; bile, none; no casts; slight deposits of urates. The low sp. gr. may have been caused by my having drank fully a gallon of water daily for some time, with the mistaken idea that by doing so I would flush the water-ways and carry off the uric acid. The uselessness of drinking large quantities of water has been proved by Haig, who says that in the morning when most uric acid is excreted is the very time when the kidneys do not respond to the water, but remains in the blood until uric acid comes below the urea, which is in the afternoon. It gets through the kidney when it is not wanted, and cannot get through the kidney when it is wanted, that is, when large quantities of urates are passing into the urine; or, on the other hand, the drinking of much water may increase the excretion of uric acid by causing dyspepsia, hydraemia, or both, and thus do harm, whereas our aim should rather be to diminish for a time the excretion of uric acid, and at the same time free the excretion of water.

The question arises, where was the uric acid which should have passed by the urine in sufficient quantity to be

in the proportion of one to thirty-four of urea? It must have been taken up by the liver, spleen, kidneys and especially by the joints and fibrous tissue, on account of their diminished alkalinity. The small amount of urea may have been caused by the fact of my endeavor to lessen the nitrogen by taking no red or dark meats for several weeks, and reducing the amount of saccharine substances. After having taken eight baths the amount of uric acid secreted was 12 grs., and of urea 360 grs., or 1:30. The diet during the eight days consisted of red meat once a day, and fish or chicken at other meals. Onions, squash, celery, prunes stewed and sweetened with saccharine, weak tea or coffee, stale bread or toast and zwieback and milk. Although I had added a nitrogenous substance in red meats, the secretion of uric acid had increased as also the urea, but at the same time the toxic symptoms had decreased. As the only treatment used was the baths, the alkalies which they contained must have entered thoroughly into the circulation and raised the alkalinity of the blood and set free the acid. The only pain that I suffered from this time onward was from the deposits in the joints and tendons of the wrists and ankles. The same diet was continued for four weeks longer, nine weeks in all, and at the end of that time the urinalysis was as follows: Quantity in 24 hours, 52 ounces; color, dark-straw; reaction, acid; sp. gr., 1019; urea, 6 1/2 grains per ounce; uric acid, none; sugar, none; albumen, none; amount of urea in 24 hours output, 341 grs.; epithelium from bladder and kidney. The absence of uric acid can be explained in two ways—first, that the liver, spleen and kidney must have taken it up, or that there was none to excrete. If the former were the case, toxic symptoms would have been felt, but I felt none. According to Haig the ratio of uric acid to urea must have been greatly disturbed, as he considers that the normal proportion, as I have already stated, of uric acid to urea

is 1—34. I am of opinion, however, that there must have been some mistake in the analysis, as I can find no authority states that uric acid is ever so thoroughly eliminated that none passes in the urine of 24 hours when the kidneys are in a healthy condition.

My diet for the next seven days was somewhat changed, all forms of beef being left out; I had chicken, fish, veal, spinach, cheese, eggs, weak tea, weak coffee, oat-meal, rice and hominy. No sweets of any kind—saccharine used when sweetening was required. The urinalysis after this diet was, quantity of urine in 24 hours, 43 ounces, slightly cloudy, rather dark; odor, normal; reaction, slightly acid; sp. gr., 1.205; urea, 9.987 per ounce; uric acid, .365 per ounce. The next week I again changed my diet, omitting chicken entirely, also all sweets—living on fish and the same cereals as before. The urinalysis was as follows: quantity in 24 hours, 52 ounces; reaction, acid; color, light straw—clear; urea, $5\frac{1}{2}$ grs. to the ounce—equal to 286 grs. in output of 24 hours; uric acid, $\frac{3}{10}$ grs. per ounce; proportion of uric acid to urea, 1:35. During the following week I made my diet principally of beef, chicken, canned fruit, etc. After using this diet for five days I was attacked with pain in my left wrist—a feeling of lassitude and headache; the urinalysis was as follows: quantity in 24 hours, 52 ounces; color, dark amber; sp. gr., 1.015; reaction, acid; urea, $6\frac{3}{4}$ grs. to the ounce, or 351 to the day's output; uric acid, $\frac{1}{30}$ gr. to ounce; phosphates, none; chlorides, yes; sulphates, yes; albumen, none; sugar, none; bile, none. Up to the time of the fish diet I felt perfectly well, but during that week I had an uneasy pain in my back over the region of the kidneys, and one day a slight headache. During the five days when I took beef I began to feel drowsy—a fullness in the head, flushing of the face after eating, severe headache, yawning, and the other symptoms mentioned above. The pain in the wrist was relieved in 48 hours by 20-gr.

doses of salicylate of sodium every three or four hours, and hot soda baths with moderate friction. Three days after the wrist got well, I had a more severe pain in my right ankle. The same treatment as above was adopted, but having a press of night work just at this time, the pain continued longer than when in the wrist. Meat was again left out of my dietary, and my condition improved in consequence, I suppose, but until I had an opportunity to take more walking exercise (and that is undoubtedly the best kind to take), I was not perfectly satisfied as to the safest diet for a uricacidaemia subject to take. Some claim that a diet entirely of lean meat in large quantities, with copious draughts of water frequently throughout the day, will absolutely clear out all the uric acid in the body. Before I try this experiment I must be a man of leisure, as I greatly fear that my sphere of usefulness here below would be interfered with to a great extent. I tried this treatment for obesity on one patient, and in a very short time he suffered terribly from eczema of a very pronounced form.

Let us now endeavor to find out what diseases may be ascribed to uricacid-aemia. Undoubtedly most forms of neuralgia are caused by the poison. Some time ago I published an article in which I gave in detail the particulars of two cases where neuralgia was the principal feature, both of which were of over twenty years' duration; one of a gentleman who suffered excruciating pain all over his body, the other of an elderly lady who had hemacrania almost every day for that long period. Both of these cases were benefitted by an anti-uric acid regime and treatment. The former is practically cured, having had no return for two years. The latter was greatly relieved for one year—that is, while she took the remedies prescribed, but giving them up her troubles returned.

Migraine certainly is often, if not always, caused by uric acid, and is relieved when it is eliminated. Haig states that

an over-supply of uric acid causes more frequent attacks in the epileptic. The various manifestations of neurasthenia may be caused by it, by disturbing metabolism, and we know that if metabolism is disturbed oxidation of food does not take place.

Nocturnal urination in children, I am satisfied, is often the result of uric acid. Some time ago I referred to this fact in an article in which I mentioned that during one year at the Leake and Watts Orphan Home I treated fifty-four cases of this troublesome habit; fifty-one cases recovered entirely by the administration of alkalies and regulated diet. Severe headache, anaemia and even Bright's disease are often due to uric acid. In my student days epilepsy was considered as due to "irregular circulation at the base of the brain," a rather indefinite explanation. Some four years ago I treated a boy aged 12 years with anti-uric acid medicine, considering that in some way uric acid influenced the circulatory system. He had taken large quantities of bromide of potassium for many months without any apparent improvement in his condition. I gave up this treatment and forbade all meats and sweets, and prescribed alkalies. Gradually the convulsions became less frequent and less severe, until they left him altogether. Haig in writing of this disease has come to a similar conclusion. He says: "It is extremely probable that uric acid is the cause of the fits, because I can practically prove that it may produce such changes in the circulation (stasis, etc.) as Sir W. H. Bradbent and others believe to be the cause of fits." Asthma is evidently subject to the baneful effects of uric acid. The majority of patent medicines which seem to relieve this condition contain iodides in some form, and we know that iodides clear the blood of uric acid. Hence their temporary success in the treatment of this disease. Such is Haig's argument, and it has much to commend it. The severe headaches which occur in those suffering

from uricacidaemia are decidedly different from other forms of headache. Personal experience enables me to describe it. Beginning with an aching all over the head which increases to a sensation of fullness, and seems as if it could only be relieved by rending the bones asunder, and accompanied by an intermittent fluttering heart.

Tonsillitis and pharyngitis are other diseases caused by the same poison. Influenza is included by some authorities, but I have had many patients who have suffered from rheumatism and gout but have never had influenza, and inversely, many who have suffered from influenza have never had gout or rheumatism. Cerebral hemorrhage may be caused by the filling of the capillaries with blood, acted upon by uric acid or its compound, with a consequent stretching and thinning of their coats; the heart still pumping more blood into the capillaries than can pass through them, on account of the compound hemorrhage with all its grave symptoms results.

The reasonableness of this argument is at once apparent to any one who has either himself had a sudden flushing of the face, even to a purple hue, and the filling up, as it were, of the skull with blood, after eating a hearty meal.

Gastro-intestinal irritation is often caused by uric acid, as witness the sick headache which is relieved by a good mercurial purge. Haig, in his exhaustive work on this subject, proves very conclusively that scores of symptoms and diseases are caused by uricacidaemia, and when one reads his book he almost comes to the conclusion that if he can control his uric acid he will have no diseases to trouble him—no sleepless nights, nor fits of blues, but everything will appear *couleur de rose*. But, alas! this heavenly condition has not reached all of us poor mortals, although he himself seems to have gained the power of keeping his uric acid in subjection.

(Conclusion in May Number.)

*NOTES ON THE NON-SURGICAL
TREATMENT OF PILES AND DIS-
EASES OF THE RECTUM AND
ITS ADJACENT ORGANS BY
ELECTRO-CATAPHORIC
INTERVENTION, ETC.*

By S. H. LINN, M. D., Rochester, N. Y.

University of Pennsylvania, Etc.

Surgical practice is sometimes an apology for better work. It is destructive in its character, and often in its application, and should always be applied as a last resort for the relief of human suffering.

External piles are acute or chronic. The acute are sometimes tender and painful; they become often considerably swollen and hard.

A damp seat in a car, carriage, or riding on a damp bicycle saddle will often cause an acute attack of external piles; fæcal poisoning is also a great cause of piles. This disease may be traced to neglect in early life, and also fæcal anæmia to the violation of physiological laws, the bowels become either obstructed, confined or inadequately relieved. In either case the fæces accumulate, are retained and not only undergo changes in themselves, but provoke changes in the mucous membrane with which they are in contact.

It has been shown that the poisonous activity of human fæces, even in healthy men, is very great; there are formed throughout the intestines of an adult in 24 hours, a quantity of alkaloids, which, if secretions were stopped, and all were absorbed, would be sufficient to destroy life.

An anatomical point which must not be lost sight of, is the extreme mobility and dilatibility of the structures constituting the termination of the bowel, as favoring the free growth of tumors.

Hamamelis or lobelia ointment (made up with lanoline) rubbed in for five minutes twice a day, and a warm compress

at night covered with oil-silk, is sufficient to cure acute attacks of piles. Generally small doses three times a day of aconite expedite the complete recovery. The tincture of aconite and iodine painted over the inflamed spot, is especially to be recommended.

Where the pain is severe and continuous in inflamed external piles, the surface ought to be painted with cocaine and in a moment removed. The relief is enormous. The following will also be found useful in some cases:

R Cocaini mur.....	gr. v
Ext. Belladonnæ.....	3 ij
Ext. Opii	3 ij
Ext. Aconiti.....	3 ss.
Ext. Stramonii.....	3 ss.
Glycerini	3 ss.

M. Sig.

These remedies can also be used cataphorically.

Do not attempt to cure an external pile at the same time as an internal, as it sometimes becomes a source of complication and danger; but if the internal be cured first and afterwards the external then there is no fear of inflammation or any complication whatever.

One of the chief causes of piles is constipation, and one of the frequent causes of this constipation is spasmodic or organic stricture of the rectum and sigmoid opening.

The symptoms of constipation from this cause are generally lumpy and ball-like fæces. Sometimes one part of the stool is formed and the rest lumpy with scybala or semi-solid and loose. When the actions are small, half the ordinary size, the presence of stricture can be ascertained (often much to the patient's wonder) by passing a tonic antispasmodic suppository into the bowel an hour or so after the regular daily evacuation. The vermicular action of the colon is started, the stricture is relaxed and another movement, varying in its nature, comes down from behind the closure and asserts itself as part of the daily natural action that should in the ordinary course of circum-

stances, have been discharged with the earlier stool. This stricture is readily cured by dilatation, etc. Great despondency, often for years, exists from this unsuspected cause. This state causes want of energy in the mornings, when energy and spirit after the night's rest should be at their best. Again and again patients have come to me for piles and it has turned out to be a cancer or stricture, so slight have their symptoms been. This is an important reason for ascertaining without delay the exact state of the rectum.

Internal piles are most varied in their nature and appearance. Sometimes they are solitary, but more frequently they are composed of masses of distended and thickened blood vessels and deposits of fibre. They give rise to very numerous symptoms and hardly any spot in the body is free from their disturbing influence. Sometimes there is loss of walking power, which is immediately regained on the cure of the piles. Often there is headache, often giddiness. Sometimes the main symptom is asthma or prostatic irritations or serious bladder and kidney troubles. Generally there is backache and pains in the hips, thighs and legs, often mistaken for rheumatism and neuralgia.

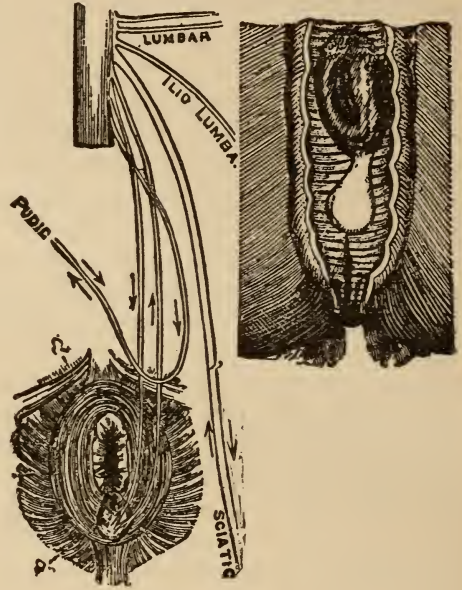
Indigestion owes its cause in many cases to internal piles, often hardly recognized.

But the symptoms which bring most cases to the physician for cure, are loss of nerve power, nervousness and general exhaustion. For these, until the piles are cured, there is no relief. Constant or intermittent small bleedings are amongst their fairly frequent symptoms.

The cure is simple, prompt and painless. I use a small air-pump for bringing internal piles into view. Their surfaces are dried, and the treatment indicated is applied. The patient feels no pain, and in answer to the question I often put, "Well, have you felt the slightest pain?" they reply, "None, whatever."

In the whole range of rectal diseases there are but few which produce such extreme misery to the patient as irritable ulcer or fissure of the anus.

The explanation of this condition is best understood by a reference to a diagram taken from Hilton.



The sensory nerve filament, exposed by the ulcer, receives impressions which are conveyed to that part of the spinal cord, from which the lumbar, the ilio-lumbar, sciatic and pudic nerves, etc., spring, and we find as a consequence, symptoms referable to reflected influences along these trunks; hence pains in the back, down the leg, and in the genito-urinary organs are common accompaniments of irritable anal ulcer; and in the same way reflex irritation of the nerve, supplying the external sphincter, produces spasmodic contractions of that muscle.

In the treatment of internal piles, the fact must not be lost sight of, that purely venous piles are, as has been proved in my experience, a great rarity—I mean piles into which no arteries enter at all. Healthy arteries and unhealthy veins, due to inflammation, compose almost all common internal piles. The arteries are al-

ways at the highest part of the hemorrhoid, a point necessary to be remembered in applying electro-cataphoric treatment.

In applying electro-cataphoric treatment to the mucous membrane of the rectum, we must not forget that like other portions of the alimentary canal, it possesses all the requisites for the exercise of absorption. Anyone can assure himself at once, not only of the power of the rectum to absorb, but also of the rapidity of that act, by injecting six ounces of warm linseed tea or barely water into the rectum and retaining it for a few hours. If at the end of that time an evacuation of the bowels should take place, not a drop, perhaps, of the injected fluid would be found in the fecal dejection. Liebig states that a solution of common salt in the proportion of one part of salt to eighty parts of water, disappeared so completely in the rectum that an evacuation one hour afterwards was found to contain no more than the usual portion of salt.

The absorbents of the rectum are much more numerous than those of any other portion of the large intestine, owing to its larger number of blood vessels. It is the only portion of the alimentary canal which is supplied with nerves directly from the great source of motion and sensation—the spinal marrow. This explains why many medical substances act more energetically when applied to the rectum than when received into the stomach; and, likewise, it tends to explain the principles upon which such remedies act in relieving painful affections of the rectum and adjacent organs.

Baron Dupuytren was one of the first to point out the fact that “medicines pass more directly, more purely and more surely to their destination via the rectum, than when taken into the stomach.”

Dr. Brown-Sequard (*London Lancet*, 1866) says, he has found that remedies act with great rapidity and much benefit when inserted into the rectum, showing that absorption is rapid by the mucous membrane of the rectum.

Through the rectum the most decided impressions are made by medicines on the uterus, the bladder, the prostate gland, urethra, the seminal vesicles and other adjacent parts by electro-cataphoric treatment.

In treating piles and rectal ulcers, I prefer a smooth conical rectal speculum with solid base for one and one fourth inches, at which point the fenestra or slot commences gradually tapering to the point. The solid smooth portion holds the sphincter muscle dilated in a semi-paralyzed condition without pain while the examination is being made through the slot.

When a tumor presents through the slot, the instrument should be so manipulated as to bring the center in plain view. The small strawberry excrescence, the bright vascular tumor, the blue or purple tumor, the smooth erectal tumor, as well as the soft flabby mucous membrane that protudes into the slot, are not at all to be treated alike.

In cataphoric treatment the same drugs may be used which are generally employed in piles and all diseases of the rectum and adjacent organs. The electrodes necessary to this treatment are of special construction, having carbon points. The positive pole is inserted in the rectum carrying the medicines, while the negative, which is of clay, etc., is placed over the sacrum.

The cataphoric treatment of all tumorous growths is made somewhat after the Apostolic method of using electricity for fibroids with remedies added; rules vary according to the diseases.

It takes rather more time with cases of prolapsus without piles.

Where there is thickened tissue and swelling the treatment has to be repeated several times.

Paralysis of the sphincters is treated by Farradism and cataphoric intervention, the dose by the rectum being half that by the stomach; strychnia acts more energetically by the rectum than by the mouth.

Is it not a fact, that stricture of the rectum (although, if early attended to it is readily curable) is often more rapidly fatal than cancer of the rectum? And for this reason, that the ulcerative process of cancer of the rectum often keeps the passage free and then wears out the patient by pain, by bleeding, discharges, and general irritation; whereas the slow, though certain complete closure of the rectum from stricture, if not attended to, leads to an earlier death.

If the stricture be unyielding, part of it can be safely dissolved by electrolysis and thus the cure expedited, after which electro-cataphoric therapeutic applications can be made.

In conclusion, it must not be forgotten that internal piles are of many and most varied natures. But for convenience, and for help in forming a correct prognosis, as well as determining a thorough and successful line of treatment, they may be divided into three separate groups.

One group will often be found merging into another, and characteristics of two or even three groups are to be found in the same case.

The first group may be called appropriately, arterial piles, because they are mainly composed, like naevi, of arteries. These bleed much and often; cataphoric therapeutic applications are peculiarly successful in curing them.

The second group includes all those large dilated, dark-colored growths, which are sluggish and more often call for electrolysis, injections, or even the clamp. It should be borne in mind that external hemorrhoids cannot be cured by injections of carbolic acid. Injections into external hemorrhoids will invariably inflame them and cause the patient much distress, and will do him positive harm; whereas the electro-cataphoric treatment will cure without pain.

The third variety are not strictly piles, but are composed of fibrous tissue; are hard and white, and easily removed by electrolysis or the clamp.

THE TREATMENT OF HEMICRANIA.*

By Dr. R. LAQUER, of Wiesbaden.

One of the most frequent and persistent of nervous diseases is migraine; it attacks all ages and sexes, and is by no means attached to the rich or to head-workers, but is just as frequently observed in the artisan and laborer. Its chief causative is heredity; the immediate causes of attacks are psychical disturbances — thus Herman Helmholtz relates most interestingly in his “*Erinnerungen*” (in the 4th edition of his “*Reden und Vorträgen*,” Braunschweig, 1897), of the almost explosive nerve-storm following the sudden but final realization of the impossibility of solving some scientific problem in which this great scientist had become absorbed. Other causes are alcohol or nicotine, presence in rooms overfilled with humanity, and poisoning; continued overirritation of the organs, through use of the ophthalmoscope or laryngoscope, or working in electrical light-measuring laboratory, also cause attacks (visual auralamaurosis).

The pathogenesis of migraine was controlled during the '60s and '70s by the DuBois Reymond-Eulenberg theory of the Sympathicus - Affection (Hemicrania sympathico spastica, or paralytica); from the '80s on Moebius in Germany and Féré in France, independent of each other, emphasize the similarity of migraine with epilepsy and refer to hemicrania as a “form of degeneration,” a one-sided alteration of the brain, a status hemicranicus, etc. Finally, following the trend of the times, autointoxication through toxins in the gastro-intestinal canal is prominently mentioned. Without further considering these theories, exhaustively treated in Moebius *Mono-graphie* (H. Nothnagel's *Handb. d. spec. Path. und Ther.*, Vol. xii, Vienna, 1894),

* This report was contributed to the New York *Medizinische Monatsschrift*, through courtesy of Dr. Leonard Weber.—Original translation for the AMERICAN THERAPIST.

a brief reference to a series of "vulgar" migraine conditions and approved treatment of same, with a systematic joint action of various factors, may prove worth publishing.

Most migraine patients are aware in advance of an impending attack, and if it is possible to meet, *i. e.*, weaken, an attack, it will not only benefit the individual but will make probable the reduction of frequency and severity of these nerve-storms. "The fewer the attacks, the better," says Moebius, and it is a great advantage to succeed in changing complete into incomplete, and severe into mild attacks. In my own case, for instance, having no treatment in youth the attacks raged severely for half and whole days, while the advance treatment in maturity has changed them to mild attacks which interfere much less with the duties of the writer.

The therapy consists first in treating the usually accompanying gastric condition with some alkaline water, and later with mild tea containing very little sugar and milk; restricted diet; a powder of

Lactophenin	0.4 to 0.75
Caffeine citr.....	0.2 to 0.3

every two hours, three doses at most; and finally a one or two hours stroll in a park or along a level country road, where the eyes can sweep a wide and distant range, and where long and deep inspirations of pure air can be taken.

If this treatment succeeds, appetite and polyurie (a sign of improved blood-pressure) soon manifest themselves; the appetite should be appeased sparingly and only with easily digestible albuminous food, such as soups, poultry; carbohydrates, such as bread, potatoes, and sweets, cheese, fats, and, of course, alcoholica must be avoided on the days when attacks are expected. A cup of strong coffee, without milk and only a little sugar, will then dispel the last remnants of hemi-crania. Stooping, ascending of stairs, reading, and in short all physical and mental efforts should be forbidden.

Concerning the theory of the curative effect of this method of treatment, which has proved effective in dozens of cases, only a few words: Restricted diet and alkaline drink correct, as stated above, the gastric disturbances; the large volume of alkaline water mechanically rinses the stomach, minimizes the nausea, and—in conjunction with the albuminous food—opposes hyperacidity. Lactophenin, well-known as an excellent substitute for anti-pyrin, acts as an anti-neuralgic, while caffeine stimulates the reduced blood pressure. The restful use of the eyes at long distances removes the frequently present spasm of the ciliary muscle. Many patients, who have accepted the attacks stoically and ceased all efforts to treat their old migraine, have been exceedingly benefitted by these empirical directions.

For children the dosage of lactophenin and caffeine is naturally reduced to $\frac{1}{2}$ or $\frac{1}{8}$ gm. That lactophenin alone, and in combination with caffeine, will yield excellent results in other neuralgias (ischias, tic douloureux, lumbago, occipital and brachial-neuralgias) is well known. In the latest publication on Lactophenin (*Therap. Monatsh.*, Feb., '98) Dr. Witt-hauer, of Halle, writes that lactophenin is not excelled by any other remedy, and that in cases of neuralgia, where other medicaments had been tried in vain, it overcame the pains promptly and permanently.

MIGRAINE.—The following prescriptions are being used with very satisfactory results:

- (1) R Lactophenin 1 drachm
Divide into eight (8) capsules.
S. Take one every three hours, after eating, with a draught of plain or mineral water.
- (2) R Lactophenin 1 drachm
Caffeine sodio-salicylate.. 20 grains
Quinine hydrobrom. 30 grains
Mix and divide into ten (10) capsules.
S. Take one every three hours, after eating, with a draught of water.
For children:
- (3) R Lactophenin 8 grains
Quinine hydrobrom. 4 grains
Divide in five (5) powders.
S. Take one every two hours until pain is relieved.

*LARGE CYST OF THE KIDNEY.**

By LOUIS S. McMURTRY, M.D., of Louisville, Ky.

I exhibit here a large cyst of the right kidney. This specimen was removed last Thursday from a woman aged forty-one years, and had been developing about seven years. The specimen having been in alcohol for several days gives imperfect evidence of the original magnitude of the tumor. The sac contained seven pints and three ounces of fluid. You will observe that the sac when distended forms a large tumor of irregular form; it is the right kidney, and extended up to the epigastrium and over into the left hypochondriac region. The diagnosis was made and announced prior to operation.

This is the second case of large cyst of the kidney in which I have operated. The first I reported four years since. The patient was a young woman of twenty-six years, large and strong, of German parentage. The cyst was larger than the one before you (I took it to be an ovarian cyst) and filled the lower abdomen and pelvis. I found, as in this case, on palpation internally that the fellow-kidney had undergone compensatory hypertrophy. The young woman operated upon four years ago lives in this city. I have kept her under observation the entire time. She weighs 184 pounds, is in perfect health, and married two years ago. She continues a vigorous and healthy woman.

In glancing over the literature I find that the American Text-book of Surgery contains but a single paragraph on cysts of the kidney. In Dennis' System of Surgery, Dr. William White devotes considerable space to the consideration of the kidney, which he divides into three classes, viz.: hydatid, simple cysts, and polycysts. This tumor seems to have been originally polycystic and converted into a monocystic form. White states

that in polycystic disease operation is unavailing, because the disease is nearly always bilateral and fatal. My experience is contrary to this. I find in Senn's work on tumors there is no especial consideration given to pathological conditions of this kind. Hence this case is exceptionally interesting and instructive.

The operative technique is also of interest. I applied in this case a method of closing off the peritoneal cavity which occurred to me after operating in the other case mentioned. It is a modification of Langenbuch's method. The incision in this case was made in the right semi-lunar line; the peritoneum opened, the cyst presenting. I then incised the peritoneum on the tumor and carefully separated it, thus entering the post-peritoneal kidney space. Then picking up the anterior and posterior layers of peritoneum, with several hemostatic forceps the two layers can be held together so as to close the peritoneal cavity and make the operation thereafter practically extraperitoneal.

Langenbuch advises suturing these layers of peritoneum; clamping with forceps and gauze-packing is quite efficient and economizes time. In cases wherein pus or colloid fluid are present it will be necessary to make posterior drainage through the lunar region; and in such cases the incision in the posterior peritoneum should be sutured. In this case the contents of the cyst did not necessitate suturing the posterior layer; it falls together in such cases after the cyst has been removed.

After closing off the peritoneum, as described, I emptied the cyst with a trocar, ligatured the ureter, renal artery and vein separately, divided them and easily removed this large sac. The operation was completed by careful attention to all bleeding points, restoring viscera to normal position and relations, and closing the parietal incision.

There is one other feature of the operation to which I desire to call attention, viz.: unless care is taken to isolate the

* Reported to the Louisville Surgical Society and contributed exclusively to the AMERICAN THERAPIST.

vessels before placing ligatures, one may readily injure the vena cava. This precaution is, for anatomical reasons, especially applicable to operations on the right kidney, as in this case. If, with an aneurism needle, tissues and vessels are trans-fixed *en masse*, such disaster would readily obtain in such a case. I was startlingly impressed with this during this operation. Operating in a case of such large cyst as this, the surgeon must encounter distorted anatomical relations, which necessitate precautions not essential in an ordinary nephrectomy. In tying the vessels in this case the abdominal aorta could be felt pulsating beneath my fingers.

As to the pathology of this specimen: I regard it a cyst degeneration similar to that which takes place in monocystic ovarian tumors. I believe there have been numerous partitions which have been broken down, converting a polycyst into a monocyst, just as that process obtains in ovarian cystic tumors. No remnant of parenchymatous structure can be found; the sac resembles that of an ovarian cyst. A microscopic examination of the fluid contained was negative. It was a clear straw-colored fluid, highly albuminous; the specific gravity was 1.010; reaction neutral. No parasitic remains of any kind were discovered. This examination was very carefully made by Dr. H. H. Koehler.

The woman previous to the operation suffered a great deal from pressure symptoms; especially nausea and vomiting. The operation was performed at nine o'clock in the morning, and by six o'clock in the evening of the same day she had secreted and passed seven and a half ounces of urine. The secretion has continued quite normal in quantity and quality. She has presented no untoward symptoms whatever, and her recovery is assured.

DISCUSSION.

Dr. J. G. Sherrill: I had the pleasure of assisting Doctor McMurtry in this operation, and was struck especially by the diagnosis being made before the abdomen

was opened. The doctor, however, said he was not absolutely sure, but thought it was a cyst of the kidney. After opening the abdomen the tumor presented immediately under the incision, and after incising the second layer of the peritoneum and grasping the two layers, we excluded the fluid entirely from contact with the abdominal cavity. The fluid was entirely evacuated without soiling the peritoneal surfaces, and in operating for cysts of this size an important step is to evacuate the fluid in such manner as to prevent possible contamination of the peritoneal cavity. I was also struck with the close proximity of the vena cava and the abdominal aorta; of course, this being the right kidney it was of necessity closer to these large vessels than the left kidney. Altogether it is quite a remarkable case.

Dr. H. H. Grant: It would be interesting to know whether or not this ureter is occluded, with the view of determining the pathology of this tumor. It might then be looked upon as an ordinary retention cyst, with degeneration of urine and perhaps other changes. From the examination I have made it is quite impossible to say whether the ureter is open or not. At any rate it seems to me there must have been, from the size of the tumor, gradual pressure on the ureter in such manner as to prevent the escape of urine, in this way forming what is known as a retention cyst. It is out of the question to consider this a hydatid, as Doctor McMurtry tells us microscopical examination of the contents shows it to be a simple cyst. In my experience I have seen nothing like it except in one instance, where I operated on a very large pus sac or tumor, an ordinary pyonephrosis, in which there was nothing but the shell of the kidney left, as in this case. This was made out by introducing the fingers into the opening. The sac of the tumor must have been twice as large as presented in this case; it was filled with pus, and the kidney tissue that could be felt was even thinner than in the specimen before us.

In this instance no attempt at nephrectomy was made on account of the condition of the patient. While he survived the operation some six or eight weeks, he was never strong enough to have borne an operation for removal of the kidney even had it been thought necessary.

Dr. W. C. Dugan: I have met with one case similar to this in a child three years old, in which the tumor was not so large. I removed the tumor by a lateral incision, not going into the peritoneal cavity, simply going down and stripping the peritoneum from the side of the tumor, getting down to the base of the tumor and ligating it, removing it from the side.

In the specimen before us there is no kidney tissue left, and I am satisfied it was a cystic tumor from the start, and not due to pressure as suggested by Dr. Grant.

HYOSCIN AND HYOSCYAMIN.—Emmert (*Correspondenzblatt für Schweizer Aerzte*, February 1, 1898) gives views of very many authorities on scopolamin (hyoscin) and hyoscyamin. It has been stated that they have been abandoned on account of uncertainty of action. Emmert concludes with certainty that hyoscin and scopolamin are the same chemically and physiologically, and that this drug is the very best and most certain mydriatic we possess. It is cheaper than atropin, and has more immunity against fungus formation.—*Medical Review of Reviews*.

EUCAIN.—Dr. Morton demonstrated to the class, that the *ligation of varicose veins* can be made absolutely painless by injecting a 4 per cent. solution of eucain into the parts. In making the incision, a small superficial vein was cut. In calling attention to it, Dr. Morton remarked, that if it was included in the suture, a small hematoma, with possible suppuration, may follow. Care must also be taken not to include a small nerve, as a painful neuritis may result. The parts were lightly dusted with acetanilid, before the dressings were applied, and the entire leg bandaged to prevent venous congestion.

THE AMERICAN THERAPIST.

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Subscription Price, - - \$1.00 per annum.

PUBLICATION OFFICE, 73 to 79 FULTON ST., NEW YORK.

Address all communications to

THE AMERICAN THERAPIST,

P. O. Box 1170.

New York City.

Vol. VI.

APRIL, 1898.

No. 10.

MIGRAINE AND EPILEPSY.*

The pathologic etiology of migraine has been long enough the subject of speculation, but we are still in the phase of conjecture or at least theory; our positive acquisitions of knowledge as to the essential pathologic process are so far practically nothing. The notion that it is a vasomotor neurosis has been largely abandoned, and neurologists at the present time are inclined to class it with epilepsy as a fulgurant cortical neurosis, a symptom of cortical instability associated, it may be, with some conditions of morbid metabolism, such as the uric acid or arthritic diatheses. While it may be assumed that it is a derangement to some extent of the function of the sensory cortical elements due to various irritations arising from the digestive organs, the sexual apparatus, the general or spinal sensory tracts, etc., etc., its ultimate cause must be looked for somewhere back of all these in some more profound systemic condition, the exact nature of which we are only able to conjecture at the present time.

Dr. B. K. Rachford, who has, during the past few years, advocated the theory of leucomaine poison as the essential cause of this disorder, publishes in the April issue of the *American Journal of Medical Sciences* a further paper on the subject re-

* Editorial in *Journal American Medical Association*, April 9, 1898.

iterating his former views and supporting them by additional arguments and facts. His former findings of xanthin and paraxanthin in the urine of sufferers from migraine have, he states, been confirmed by continued observations during the past two years, especially as regards the latter. In normal urine paraxanthin is present in too minute a quantity to be readily detected, and this is true also of that secreted in ordinary attacks of headache, which have not the clinical features of what we recognize as migraine. He does not, therefore, believe that cephalalgia is itself necessarily or directly associated with this excess of paraxanthin; it is the special condition that gives rise to the peculiar migrainous attack. An over-production and accumulation of this product in the blood from some recondite neurotic condition appears to be his theory, and the migrainous explosion is the attendant of its periodical excretion. It is the most toxic of all the leucomaines of the uric acid group, and some of the symptoms it produces are suggestive of those of migraine. From all the data thus far obtained, Dr. Rachford deems it reasonable to assume that paraxanthin is to be considered as an important factor, at least in the production of true migraine.

The relations of epilepsy and migraine suggested in the theory stated as just now prevalent, are quite strongly suggested by certain clinical facts familiar to neurologists and to whoever has any extensive experience with these neuroses. Epileptiform migraine with loss of consciousness, more or less complete, in some of the attacks, and even with convulsive manifestations, is a well-known condition, and the disorder has unquestionably a close relation with the more formidable affection, as do also certain forms of vertiginous attacks, themselves apparently related to migraine. The pathology of epilepsy, considered as a disease of itself, is also obscure, but when it is reckoned only as a symptom of various pathologic states it is possibly more comprehensible, or at

least more easily explained in a theoretic way. Dr. Rachford makes this point in his paper and indicates the distinctions between organic or mechanical, reflex and toxic epilepsies, the first being readily comprehensible, the second due to lack of inhibition from defective development due to inheritance or malnutrition, and the last as yet imperfectly understood, but probably not the least in importance of the three general types. As a special form of toxic epilepsy he recognizes that from paraxanthin intoxication, which according to his investigations forms a small but appreciable proportion of the whole class, and has some special features of its own, though hardly enough to characterize it clinically as a definitely marked type. It is more common in women than in men, in middle than in early life, and always in cases that have suffered from, or are still subject to, migraine, thus indicating clearly the common causal factor. It is compatible with unimpaired intellectual powers, thus differing from most of the other forms of epilepsy, and is generally more amenable to treatment, thus rendering an early diagnosis the more important.

It would appear from the facts that Rachford has collected, that there is a common cause in certain cases of epilepsy and of migraine, and that, as he is inclined to believe, this is to be found in the toxic action of certain leucomaines of which paraxanthin is probably the most important. That these do not invariably cause epilepsy or migraine may be admitted, but that is one of the very common facts for which we can have as yet no explanation, and which does not vitiate the conclusion that there is sometimes a causal relation between their occurrence and that of these disorders.

There are undoubtedly other autotoxic factors in epilepsy, those, for example, from the intestinal organs, and the analogy of drug epilepsies is sufficient to make this probable. It is an interesting fact, none the less that we can in this way

find a plausible explanation of the long recognized affinities of migraine and epilepsy, and the line of investigation here indicated is well worthy of being further followed out. It may throw light not only on the causes but also on the essential lesion, and the practical questions of treatment and prophylaxis.

Current Literature.

GUAIACOL AS A LOCAL ANESTHETIC.—Newcomb (*Laryngoscope*), in a paper read before the American Laryngological Association, describes the use of this drug in certain cases as a substitute for cocaine. He says that it has been used in ninety-eight cases with gratifying success. It is prepared by adding five per cent. of guaiacol to a solution of sulphate of zinc in olive oil and alcohol.—*Lancet-Clinic*.

CORNEAL ULCERS.—Dr. Hansell (*Phila. Polyclinic*) has repeatedly called attention, in the treatment of *corneal ulcers*, to the great benefit promptly obtained after the administration of the following prescription:

Santonin.....1 grain.
Calomel.....4 grains.
Sugar of milk, a quantity sufficient.

DIRECTIONS.—Make into 4 powders and give one every hour, following the last powder with a dose of castor oil.

After a full operation of this remedy and restriction of the diet to nourishing food, the disease rapidly disappears.

HEADACHE-TREATMENT.—For the symptomatic relief of paroxysmal headaches, whether migrainous or due to other causes, Dr. S. Solis-Cohen continues to prescribe the combination of *acetanilid*, *caffein*, and *monobromated camphor*, that originated at this clinic, and has since become so popular. It is usually dispensed in capsule (dry). Ordinarily, three grains of each drug are given at one dose. The dose is directed to be repeated in one or two hours if needed, and again after a further interval of two hours, if needed. Patients

are told, however, not to take two doses if one gives relief, and not to exceed three doses in twenty-four hours, except by special order. This treatment is purely palliative for the attack, and other treatment for permanent relief is prescribed in accordance with the nature of the case and the cause of the headache.—*Phila. Polyclinic*.

GASTRO-INTESTINAL HEMORRHAGE IN THE NEW-BORN.—According to an editorial in *Pediatrics*, August 1, 1897 (quotes the *Univ. Med. Magazine*), gastro-intestinal hemorrhage in the new-born—that is to say, within fifteen to twenty days after birth—are of rare occurrence. In the case of melena proper the symptoms vary with the quantities of blood lost. If the hemorrhage is scanty, general symptoms are lacking; on the other hand, the phenomena usual with large losses of blood are present, except that fall of temperature does not always exist. Melena neonatorum occurs in the majority of cases within from three to ten days of birth, more often within three. The cause of many of these hemorrhages is obscure; occasionally ulcers of the stomach or duodenum have been found, but in most instances the hemorrhage has been capillary, and nothing but a congested state of the vessels has been discovered. Grandier and Ritter have given as a probable cause a condition allied to hemophilia. The late J. Lewis Smith quotes Vogel, who believed that the closing of the umbilical vein was the cause of congestion. The prognosis naturally must depend on the frequency and abundance of the bleeding, and the causes when these can be diagnosed. Fortunately, cases of melena proper are few and far between. According to Bohl and Hecker eight cases occur in 4000. Spiegelberg says two in 5000 and Genrich one in 2800. In treating infants suffering from melena proper no nourishment must be given that has a tendency to congest; suckling at the breast should be prohibited, the feeding

should be effected with a spoon, containing either mother's or goat's milk diluted with iced barley-water. The skin should be rubbed to arouse circulation, and above all the respiratory movements of the infant should be left perfectly free. The application of heat is beneficial. The French pin their faith to the use of the couveuse. When this is not obtainable, Loranchet advocates enveloping the infant in warm cotton-wool. Hermary strongly recommends friction with alcohol. Opinions differ as to the effectiveness of medicine administered internally. Hermary advises perchloride of iron. Eustace Smith suggests gallic acid, extract of koumeria, or oil of turpentine in mucilage. Oni, on the contrary, deprecates the internal use of medicine on the ground that the stomach requires rest, and he prefers subcutaneous injections of ergotin. When the anemia is severe, Lutin, Hutinel, and Weiss advise injections of a weak solution of sodium chloride; inhalations of oxygen, when possible, artificial respiration, and injections of ether are often of benefit. After the bleeding has been finally arrested the infant will need careful overlooking for some time, and if syphilis has been diagnosed as the cause, mercurial treatment should be commenced without further delay.

EUCHININ IN MALARIA.—Dr. St. George Gray, writing from St. Lucia, West Indies, states (*Brit. Med. Jour.*, February 26) that he has found euchinin highly satisfactory in the treatment of suitable cases of malarial fevers. He has found, however, that it does produce cinchonism, notwithstanding published statement to the contrary, for he has seen it cause tinnitus aurium, deafness, and derangement of vision and sensation in an even more marked degree than the same quantity of quinine itself.

Contrary to the statement of Professor von Noorden, that 15 grains of quinine are equal to 25 or 30 grains of euchinin, Dr. Gray finds that euchinin is a more

powerful antipyretic than quinine, and that, in malarial fevers at least, 10 to 15 grains of euchinin are as efficacious as 20 to 25 or 30 grains of quinine sulphate, and that it nearly always, in doses of 12 to 15 grains, causes buzzing in the ears, if not other symptoms of cinchonism. The largest dose that he has given has been 15 grains once or twice a day, always commencing with a good purge, which he considers essential in the treatment of all malarial fevers. This is sufficient in most cases, following the treatment with tonics and change of air if possible after the temperature has remained normal for a few days. Dr. Gray summarizes the conclusions reached by him as follows:

1. Euchinin is as effective as quinine in malarial fever.
2. It causes cinchonism.
3. It is tasteless, therefore easily administered. This is its great advantage over quinine.

The readiest form of administering euchinin is the simple powder placed dry on the tongue and washed down by a little water. As it is very bulky, some patients prefer it in cachets; but all solutions of euchinin that I have seen are decidedly bitter, presenting no advantage whatever over quinine.

I do not consider cinchonism such a fatal objection as the intensely bitter taste of quinine. My experience of malarial fevers is that quinine and the malarial poison being antidotes to one another, cinchonism is the sign that a sufficient quantity of quinine has been taken to overcome its antagonist, the malarial poison, as mercurialism is the sign that the syphilitic poison is under control.

If euchinin can be proved to be even nearly as effectual as quinine, its tastelessness alone should recommend it to many as a substitute, notwithstanding that it is not altogether free from some of the other objections to quinine.

DR. MAYS controls the *night-sweats of phthisis* with atropin sulfate, gr. $\frac{1}{1000}$, given four times daily.—*Phila. Polyclinic.*

HOLOCAINE AS A LOCAL ANESTHETIC.—*Medicine* (April, 1898) summarizes an excellent report on anesthetics thus :

Wurdemann and Black (*Ophthalmic Record*, January, 1898) made a further report on the use of holocaine as a local anesthetic before the Chicago Ophthalmological and Otological Society. Holocaine is a synthetic alkaloid introduced by Tauber. Wurdemann and Black's first report appeared in the *Ophthalmic Record* for October, 1897. Since then they have used the anesthetic several hundred times and studied its action in comparison with cocaine and eucaine. Eucaine was found to be so irritating that its use has been given up. The modification of eucaine called eucaine B has not been used by these experimenters, but is said to be better than eucaine.

Holocaine possesses some practical advantages over cocaine as follows: In the rapidity and completeness with which it produces anesthesia, and the length of time the anesthesia lasts. Anesthesia of the cornea is produced in fifteen seconds after one drop of the one-per-cent. solution and lasts for ten minutes. On account of the rapidity of its action no time is lost in producing anesthesia, but it is better to make three applications before operating. The anesthesia is found to be quite as complete as with cocaine. Holocaine produces anesthesia of the iris also, even where the tension is greatly increased as in glaucoma. The anesthesia may be indefinitely prolonged with holocaine, but not with cocaine. The eye is somewhat congested by holocaine, but the congestion passes off within an hour. The accommodation and pupil are not affected by holocaine. The absorption of holocaine, they believe, is more thorough than of cocaine because of the constricting effect of cocaine on the vessels; this explains why the deeper structures, such as the iris, are more affected by holocaine. The duration of the anesthesia produced by the holocaine is longer than that from cocaine. Absorption by inflamed surfaces,

as in granular lids and in glaucoma, is more than from cocaine. The cornea does not dry as with cocaine, and the danger of epithelial desquamation is *nil*. Holocaine and eucaine are not only anesthetic, but are also antiseptic, and their effect upon blood-vessels seems to stimulate the healing process. They will keep indefinitely and can be boiled.

The only disadvantage in the substitution of holocaine seems to be that the bleeding is more free, and it is therefore contraindicated in certain cases. No toxic effects have ever been reported, except in one case where it was used hypodermically. To sum up, holocaine may be said to excel cocaine for operations upon the eye, in the following: Its action is quicker and more lasting; it more thoroughly anesthetizes inflamed surfaces; the anesthesia may be indefinitely prolonged; the cornea does not desiccate under its use; it does not affect the tension; it does not act on the pupil or accommodation; it does not interfere with the nutrition of the tissues, but rather increases their blood-supply and hastens healing; its solutions are antiseptic; it is proportionately cheaper.

In the discussion, which followed the report, Dr. Hotz stated that he had experimented with holocaine and found it a very prompt and quickly acting anesthetic, but that it did not seem to penetrate deep enough to make it of value for more extensive and deeper operations, especially those involving the opening of the eyeball. He could not understand on what ground it was claimed that holocaine was absorbed better than cocaine, as absorption is an osmotic process and has nothing to do with circulation. He did not find that the duration of the anesthesia with holocaine was as long as with cocaine. The pain connected with the application of holocaine was most intense for half a minute with a one-per-cent. solution.

Dr. Pinckard had used the eucaine B for some time and found that in contrast with eucaine it did not cause pain in two-

per-cent. solution. He found that the periods of anæsthesia were about the same in appearing and disappearing as with cocaine. The solution is absolutely stable for a period of several months, and can be boiled without affecting its quality.

PRURITUS VULVÆ.—Herman (*Univ. Med. Magazine*, from *British Medical Journal*, Nov. 20, 1897) makes the following division of cases of pruritus vulvæ:

(1) Adventitious, due to dirt, pediculi, worms, or pessaries.

(2) Skin diseases,—eczema, herpes, or furuncle, follicular, urticarial, and diabetic dermatitis.

(3) Irritating discharges, such as gonorrhea, cancer, senile endometritis; also cases in which no visible discharge is apparent.

(4) Venous congestion, due to heart, liver, and lung diseases.

(5) Nervous affections.

For each division the following treatment is recommended:

(1) White precipitate ointment for pediculi. For the other causes, absolute cleanliness and changing of the material of pessaries.

(2) For eczema (usually affecting fat, elderly woman and those pregnant), when due to pruritic organisms, warm hip-baths, with liquor carbonis detergens added, and the parts powdered with boric acid. When due to diabetes, general treatment. Herpes zoster did not respond to treatment. For follicular pruritus it is recommended to squeeze out the contents of follicles and apply corrosive sublimate, 1 to 2000.

(3) Antiseptic and sedative douches, and sedative dusting powders on the vulva, as a saturated solution of borax and solution of boric acid. In case of failure with these, try a 1 to 7 solution of carbolic acid.

(4) The same local treatment as for class with general constitutional treatment.

(5) Pruritus, when occurring in aged women, is frequently a symptom of degenerate changes, and treatment usually fails.

Book Notices.

ELEMENTS OF LATIN. For Students of Medicine and Pharmacy. By GEORGE D. CROTHERS, A.M., M.D., Teacher of Latin and Greek in the St. Joseph (Mo.) High School; Formerly Professor of Latin and Greek in the University of Omaha; and HIRAM H. BICE, A.M., Instructor in Latin and Greek in the Boys' High School of New York City. 5¼x7½ inches. Pages xii-242. Flexible cloth, \$1.25. The F. A. Davis Co., Publishers, 1914-16 Cherry street, Philadelphia.

This is certainly an excellently constructed guide for acquiring rapidly a serviceable acquaintance with, if not knowledge of, the Latin language so far as it is needed in the intelligent pursuit of medicine and pharmacy. It is especially practical in that the names of drugs and terms in medicine are used exclusively in the exercises. Not only the student, for whose preliminary preparation a thorough study of Latin by means of this book should be obligatory, but the physician and pharmacist—long ago graduates—will find this little work valuable for study and reference.

THERAPEUTICS: ITS PRINCIPLES AND PRACTICE. By H. C. WOOD, M.D., LL.D., Professor of Materia Medica and Therapeutics, and Clinical Professor of Diseases of the Nervous System, in the University of Pennsylvania. Tenth edition. Pp. xxxi-1033. Philadelphia: J. B. Lippincott Co., 1897.

A text-book that has progressed to its tenth edition in the course of 22 years, and that is in current and preferred use in almost every school of medicine in this country and is highly esteemed in other countries, requires no further laudatory notices. Wood's Therapeutics is the standard, and the author's indefatigable work as shown in the carefully revised and enlarged editions every few years maintains the standard easily.

The feature of the latest (10th) revision is the newly prepared article on animal substances used as medicines; new drugs have also been added and alterations

made to utilize matured estimates of drugs and methods. As a work of reference, therefore, this edition may be assumed to be up-to-date, and hence indispensable for the progressive medical man of the period.

We note with regret that the author has been over-cautious and much too conservative in his treatment of new remedies. Many of the chemicals introduced during recent years, with established reputations as therapeutic agents, have been omitted from this volume. Such omissions are not justified; a representative reference work—to be complete and satisfactory—should give place impartially to every legitimate member of *materia medica*. However, the therapeutic tenets are the chief features of the work, and from the therapist's standpoint it stands preëminent in its field.

THE INTERNATIONAL MEDICAL ANNUAL and Practitioner's Index. Sixteenth Year. Publishers: E. B. Treat & Co., New York. 1898. (Price, \$3.00).

In all essentials this edition of the well-known Annual is up to the excellent standard achieved in previous years. Thirty-five authors of prominence are the editors of the various departments, and as usual they present the previous year's progress in all branches of medical science in very complete but terse abstract. Only six of the editors of this volume are Americans; American literature in consequence is scantily referred to.

The leading chapter, on "Therapeutics," is contributed by the eminent Dr. William Murrell, and it is a very interesting review; we must add, however, that it is very evident that this editor had very few American Journals available for reference, which is deplorable, because the American Year-book (Gould's) has demonstrated that rich material can be culled from American sources.

The book is handsomely printed, profusely and excellently illustrated, and well bound. Those readers who have the previous editions should undoubtedly add the 1898 volume to their sets.

A COMPENDIUM OF INSANITY. By JOHN B. CHAPIN, M.D., LL.D., Physician-in-Chief, Pennsylvania Hospital for the Insane; Late Physician-Superintendent of Willard State Hospital, New York; etc. 8vo., pp. 234. Illustrated. Publisher: W. B. Saunders, 925 Walnut St., Philadelphia. 1898. (Price, \$1.25.)

The reputation of the author is a guarantee for the value of this little work. It is "a compendium of diseases of the mind for the convenient use and aid of physicians and medical students. It is hoped that it may also prove helpful to members of the legal profession and to others who, in their relations to the insane and to those supposed to be insane, often desire to acquire some practical knowledge of insanity, presented in a form that may be understood by the non-professional reader." This quotation from the author's Preface explains the object and scope of the work, and we have only to add that the book is, first, very interesting, and second, eminently practical in the directions furnished for managing and treating the class of patients described.

WE HAVE received a copy of "Squibb's Ephemeris" of recent issue. It is quite voluminous for a pamphlet. As usual during recent years, the bulk of the publication is made up of Dr. E. H. Squibb's Annual Comments on *Materia Medica* literature during the past year; it is a laborious compilation, but disappointing in its treatment of new remedies.

ANNOUNCEMENT.—Mr. W. B. Saunders, 925 Walnut St., Philadelphia, Pa., who is easily foremost among medical publishers in the number and variety of first-class books issued in recent years, has just published his announcement for 1898. His 16-page Bulletin describes the books issued by him during 1897, and gives preliminary outlines of this year's publications. Of the latter the deservedly popular Gould's American Year-book of Medicine and Surgery for 1898 (3d year) is now ready. Mr. Saunders will mail a copy of his 1898 Bulletin to any of our readers who will send him a request for it.

The American Therapist.

A MONTHLY RECORD OF MODERN THERAPEUTICS,

WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

VOL. VI.

NEW YORK, MAY, 1898.

No. II.

Original Articles.

URIC ACID POISONING.

By J. LINDSAY PORTEOUS, M.D., F.R.C.S., Ed.
Physician to St. Joseph's Hospital, Yonkers, N. Y.

(Concluded from April Number.)

Let us now consider what treatment we should adopt in order to relieve the uric-acidaemic sufferer, as it is of little use to advise any one who has not suffered, as to the prophylactic line of treatment, especially as regards diet, because few are inclined to forego the so-called luxuries of this life, to prevent a disease of which they have never had an attack.

In writing of the treatment of uricacid-aemia I am at present unable to make up my mind whether acute articular rheumatism which affects several joints at the same time or many joints in succession, ultimately damaging the heart, is caused wholly by uric acid or the compound of which it is the only recognized ingredient, or whether, as has been claimed recently by a French bacteriologist, it is caused by a microbe. In either case uric acid plays a prominent part. There is, however, in the diagnosis between pure gout and rheumatism an important difference, namely, temperature. In the former there is generally very little or no rise in temperature, whereas in the latter there is a very decided rise. Haig asserts that he can, at will, cause an attack of arthritis, clinically indistinguishable from gout or rheumatism, in any healthy individual by getting a little uric acid into the blood, and "when the pulse becomes slow and more or less headache and mental depression are felt, showing that uric acid is present, as quickly as possible give some acid or other

drug which interferes with the solubility of uric acid, and drive it out of the blood into the tissues."

From this it would appear that uric acid is the probable cause of gout and rheumatism.

One of the most frequent premonitory symptoms of an attack of uric acid poisoning is recurrent headache. To relieve this we must remove, as soon as possible, the uric acid from the blood. To accomplish this, the old-fashioned *blue pill* is one of the best remedies we have. But as it acts more slowly than calomel, I have taken and ordered $\frac{1}{2}$ gr. calomel well triturated with sugar of milk, to be repeated in one hour if not relieved. When the head feels like bursting, temporary relief can be obtained by compressing the carotid arteries. Between the attacks of headaches, uric acid-producing foods, such as meat, tea, coffee, soups, extracts of meat, etc., should be avoided. According to Haig, by taking in the place of these foods, milk, bread, cereals, pulse and gluten, the healthy proportion of urea to the pound of body weight (3 to $3\frac{1}{2}$ grs. per lb. weight per day for an adult) will be maintained. It may be difficult for a person used to high living to so suddenly depart from his accustomed over-nitrogenous diet, so a little meat, eggs or fish may be taken for a time, gradually diminishing the quantity and replacing them by more vegetables, cereals, etc. I firmly believe that quantity has a great deal to do with this condition. We are all inclined to eat more than is absolutely necessary, in fact, many seem to live to eat and not eat to live, and consequently pay the penalty. Besides these precautions it is very necessary to take plenty

of exercise. The well-known advice of the great Abernethy, when consulted by a wealthy nobleman who was suffering from gout, "to live on sixpence a day and work for it," was sound. During the exercise we increase the oxygen in the blood, and by so doing, prevent the diminution of its alkalinity. In other words, it increases the formation of acids by causing a rise in the acidity of the urine and a consequent fall in the alkalinity of the blood.

The same line of treatment applies to the other premonitory symptoms, such as a feeling of drowsiness, irritability, languor, etc. But as these symptoms might last for a time, it would not be judicious to continue the use of mercurials. It is necessary, therefore, to have some other drug to fall back upon. Between my attacks I was advised to try *iodides*, but they caused no improvement in my condition. The reason for this is thoroughly explained by Haig; he says, that the *iodides* reduce the secretion of uric acid, but the reduction is not caused because it is destroyed or is eliminated in other forms, but because it is retained in the body. The *iodide* makes the blood for the time being a bad solvent, and the liver, spleen, kidneys, and fibrous tissues retain the uric acid, which is freely eliminated after the effects of the *iodide* have passed away. The drugs which I have found most suitable are *colchicum* and *citrate of potash*—these may be taken daily. The *colchicum* acting beneficially as a uric acid eliminator, also as a laxative. The most convenient form of using *colchicum* is by giving the alkaloid, *colchicine*. The mode by which *colchicine* relieves these symptoms is by increasing the alkalinity of the blood, and making the uric acid more soluble and thus more readily excreted. During an acute attack in which one or more joints are affected, the manner of treatment which I pursue is as follows :

Give 15 or 20 grs. of *salicylate of sodium* every 2 hours until the toxic symptoms appear or the pain becomes less, at the same time applying poultices of bi-

carbonate of soda, with absolute rest to parts; or, if *salicylates* are not well borne, a tablet triturate of $\frac{1}{4}$ of a gr. of *colchicine* should be given every 15 minutes for 4 doses, then one every four hours. In no case however should *salicylates* be given after the *alkali* or *colchicum* treatment.

There is a form of gout which is called the traumatic, in which the *salicylates* are of no use. It is a severe pain in a joint previously attacked, and probably the results of deposits, which may be caused by an injury to the joint, by being knocked or pinched by a shoe or by too much walking. *Colchicum* is here the remedy by causing "depression of nutrition, absorption and metabolism, acting in this respect like *antimony*, *aconite* or *free purgation*" (Haig). In an acute attack, where one or more joints are pained and swollen, a strong mercurial dose should be given, followed in four hours by a saline draught. At the same time 20 grs. of *salicylate of sodium* should be given every 2 hours and hot fomentations of *bicarbonate of soda* and water should be kept constantly applied, and where pain is excessive, a small hypodermic of *morphine* should be administered.

This line of treatment will seldom fail to give relief in a few hours. But there are many cases in which the relief is not permanent; such are the cases where the thermal alkaline baths of Virginia should be resorted to, and the really wonderful changes for the better that I have seen take place after a course of treatment there, have convinced me that this is the ideal treatment for uric acid poisoning. The advice to patients suffering from the premonitory symptoms of gout or rheumatism is, to go as soon as possible to these baths and not wait until severe pain makes them helpless or leaves their joints or fibrous tissues packed with deposits. During this treatment, and after it, observe a carefully regulated diet, which omits those articles of food known to contain uric acid, prior to their entering the system, or likely to produce it after they have entered it.

Many of the cases which a physician is called to attend are chronic, and have left a considerable amount of stiffness in their joints, which are pained even if used to a small degree. The treatment for this stage which has proved most efficacious is the application of dry heat by means of the hot air bath. This consists of a cylinder of copper, lined with asbestos and provided with a valve at one end of the top to allow the moisture from the limb to escape. There is also a valve at the bottom to regulate the temperature. It is heated by means of an alcohol lamp placed under a funnel which conveys the heat equally all through the cylinder.

It is extraordinary how high a temperature can be borne by the human body when the heat is dry. 450° can be maintained for some time without much discomfort to the patient. After even one application the mobility of the joint is increased, and after the third or fourth I have not only seen the mobility increased, but the puffy swelling round an ankle much reduced in a case of fourteen years standing.

A plea for the surgical treatment of rheumatic arthritis has been made by Dr. John O'Connor, of Buenos Ayres, and the results he has recorded prove that he was justified in using that treatment. In one case where medicine failed to relieve a painful swollen joint he made an incision two inches long into the swelling and removed 4 ozs. of greenish turbid flatulent serum with many large masses of lymph, irrigating with 1-5000 bichloride solution and gauze draining. After the operation the pain was greatly relieved, and on the third day the joint was quite dry, there was no pain, no swelling, and on the sixth day the wound was healed. The removal of deposits in muscles and joints had been suggested and successfully accomplished, much to relief of the patient.

Having suggested the use of salicylates as the best solvent and excretants of uric acid, and advising exercise which raised

the alkalinity of the blood, and which should be persevered in in sunshine and in rain all the year round, and can be accomplished without fatigue if the salicylates have been taken for some time, I now come to the most difficult part of my subject, namely, the prophylactic treatment as regards the foods and drinks to be used. In my case I have amply proved, at least to my own satisfaction, that red meat must be omitted or only taken during much physical exercise; chicken, game, fresh vegetables, and perhaps very weak tea or coffee, most cereals may be used; milk and cheese in many cases cannot be taken on account of their constipating effect. As there is more or less anaemia in all rheumatic and gouty patients, food which injures the red corpuscles of the blood, ought to be omitted. Mackenzie has well demonstrated that a meat diet (contrary to popular belief) increases the destruction of the red corpuscles, and therefore this is a most potent reason for being careful not to give much to gouty people nor to children, as both are inclined to an excess of uric acid. In all cases the eating of animal food must be broken off gradually. If a person is stout and can take milk, it should be skimmed. Tomatoes, potatoes and asparagus are perhaps the only vegetables which never should be taken. Fruit contains acids, but although they have been known to cause an outbreak of gout in one already greatly charged with uric acid, fruit is wholesome and for the most part harmless, because the acids become carbonates and act as alkalies after being in the body for a few hours, and actually lower the acidity of 24 hours urine.

The subject of alcoholic drinks is one of importance, as although, as a rule, it may be better for a gouty or rheumatic person to take none, still in many cases habit or other reasons make the consumption of some form of stimulant imperative. The most acid of all drinks is champagne, which contains the equivalent to 49 grs. of oxalic acid to the pint. Rich

claret comes next, showing 46 grs. to the pint. Then comes sherry with an equivalent of 37 grs. to the pint. Cheap beers come next; very pale light beer may be taken by some, but no dark beer or heavy ale should ever be taken. Burgundy, Rhine wine, are least harmful in the order mentioned. A good glass of cider, according to Haig, has an acidity equal to 58 grs. of oxalic acid to the pint, but the soda and potash it contains neutralizes the acid, and the action in 24 hours urine is *nil*. The stimulant par excellence for the gouty and rheumatic, when such is absolutely necessary, is whiskey, and as Scotch whiskey contains little or no acid, when genuine, it is harmless as regards increasing acidity. I have endeavored to obtain a whiskey which shows from its analysis that it is free from sugar and from acidity, and the one which seems most perfectly to answer the test is one only lately imported—it is Crabbie's Highland Whiskey. It is old, and consequently free from fusel oil—a supposed product of the fermentation of sugar. This whiskey I have prescribed when it was necessary, and it had no effect upon the acidity of the urine or on the symptoms of uric acid aemia. As to the use of tobacco, it is well known that irritability and depression are relieved by its use. It seems to lower tension and quicken the heart's action, and thus cause an increase of blood passing through the brain. The inhaling of the products of tobacco or any other vegetable matter takes in a certain amount of the acid products of combustion which may be absorbed by the mouth and thus help to clear the blood of uric acid, but the after-effects of all acids, except those of fruits, after this first action, may be followed by mental depression.

To any one who is a follower of Haig, the results of the urinalyses in my case are disappointing, as only in one analysis, namely, the last one, when I returned to a meat diet, were the expected effects realized. On the 5th day of a meat diet one wrist became much pained and swollen, and on the 6th day the right ankle pained

very much, notwithstanding 15 gr. doses of sodium salicylate every 3 or 4 hours were taken. The conditions for 6 days preceding each analysis were exactly alike in each case—such as not sufficient exercise, cold rainy weather and a moderate amount of brain work.

My experience goes to prove that much has yet to be learned regarding this toxic condition of the body, and there is yet a great field left open for experimenters. The vast diversity of opinion of competent authorities shows that a large amount of knowledge is still to be acquired regarding uric acid or its compound, both as to how it causes diseases and the manner in which those diseases are to be successfully treated.

HEADACHE FROM EYE STRAIN.*

By SAMUEL G. DABNEY, M.D.,

Clinical Lecturer on Diseases of the Eye, Ear, Nose and Throat in the Hospital College of Medicine, etc.,
Louisville, Kentucky.

LOCATION.—Headache from eye strain is most frequently over the eyes or through the temples. Next in frequency is pain in the occipital region. It is rarely distinctly unilateral and rarely felt at the vertex. In cases beginning at the temples, it soon spreads to the whole head.

ACCOMPANYING SYMPTOMS.—As a rule pain follows the use of the eye for close work and often the type or other object looked at becomes blurred and the letters run together. Distant vision is generally satisfactory, and very frequently there is *no imperfection of sight even for the finest and closest application*. Nausea and vertigo—alone or combined—are rare. They do sometimes, however, occur in errors of refraction and rather more frequently in disturbance of the ocular muscles. Migraine is rarely if ever produced by eye strain. Even when a troublesome anomaly of refraction or muscle balance is associated with it, it is seldom cured by correction of these conditions.

* Read before the Louisville Clinical Society, and contributed exclusively to the AMERICAN THERAPIST.

RELATION TO GENERAL HEALTH.—Naturally any influence which lessens the vigor of the muscular system or morbidly increases the nervous irritability will increase the discomfort from any optical defect. Thus an error which has in robust health never been perceived, may after a long illness, or after confinement, or after mental worry and strain, and especially if the patient suffers from insomnia, be the cause of severe headache. This, of course, adds another depressing element to the case, increasing the nervous irritability. The use of glasses in such cases may be a valuable adjunct to other therapeutic measures.

NEUROTIC ASTHENOPIA.—In neurotic subjects, and especially in women with chronic diseases of the sexual apparatus, it is common to find the most positive symptoms of eye strain with absolutely no optical defect. The accurate examination of such eyes demands abundant time and patience. After looking at the test letters for a minute or less the patient declares that everything becomes blurred and the eyes are too painful to look any longer. Repeated brief examinations are better in these cases than prolonged testing. It is well to remember that even in the most pronounced neurasthenia or in the subject of serious ovarian or uterine disease, the headaches may depend chiefly or entirely on a refractive error. It is surely wise in such cases to exclude eye strain before concluding that the headache is due to other causes. In illustration I may cite the following case:

A lady of about thirty-eight years of age had suffered for years from a serious disease of the uterus. She had become the subject of insomnia and was in very depressed health. She had long suffered from severe headache through the temples and over the eyes and in the occipital region. This was attributed by her family physician and by a distinguished surgeon in an Eastern city to her neurotic condition, and this in turn to her local uterine disease. The cure of the latter by

operation and the restoration of the patient to greatly improved health still left her, however, a sufferer from frequent and intense headache. The correction of a high degree of astigmatism gave her immediate and complete relief, which might have been obtained years before had the eyes been examined. Insomnia has seemed to me to be especially conducive to discomfort in the use of the eyes.

DEGREE OF DEFECT.—Headache is more common from small than from great errors of refraction. The explanation is easy when the defect is slight, the patient unconsciously attempts to overcome it by extra ciliary strain; when it is large, the effort at accurate vision is given up as hopeless—often without the patient being aware of this infirmity—and no attempt at compensation is made.

IMPORTANCE OF OPHTHALMOSCOPIC EXAMINATION.—No examination of the eyes can be considered even reasonably satisfactory without a careful ophthalmoscopic examination. It is sometimes assumed that if the vision is perfect there can be no considerable intraocular disease. This is far from true, advanced inflammation of the optic nerve or retina, hemorrhages into retina or choroid, or beginning opacity of the crystalline lens and various other important structural changes may exist with perfect sight. The following case illustrates this point:

A few years ago a young married woman, about thirty years of age, was referred to me by her family physician for an examination of her eyes because of frequent supra-orbital headache. Careful examination under suspension of accommodation revealed no refractive defect. The ophthalmoscope, however, showed that form of retinitis which is almost pathognomonic of albuminuria. This condition is not less important in prognosis than in diagnosis, since the great majority of these cases terminate fatally in eighteen months or less. In the lady in question urinalysis showed abundant albumen and casts. She died about six months later.

To the oculist it is a well known fact that advanced disease of the nerve or retina, or both, may coexist with absolutely perfect vision, but I believe this association is not quite so well recognized by the general practitioner. Such cases, by the bye, show the danger of an adjustment of glasses by the optician.

NATURE OF OPTICAL DEFECT.—The importance of correcting even very slight degrees of astigmatism in every case of eye strain has been for a number of years almost universally admitted. This defect is by far the most common cause of ocular headaches. It is, of course, often combined with varying degrees of hypermetropia and myopia which require correction. The exaggerated importance attached to imperfect balance of the ocular muscles by some oculists a few years ago, has given place to a skepticism on the subject which I believe is excessive. Cases are rare in which muscle in balance plays an important part in eye strain, and its consequent symptoms; but they do certainly occur. I cite the following as an example: A muscular young man of exceptionally well balanced nervous system suffered from frequent pain over the eyes and in them, and occasional attacks of vertigo. Examination by a distinguished New York oculist revealed nothing wrong with the eyes, and his symptoms were ascribed to other causes. Another oculist prescribed a glass for a low degree of astigmatism, but without benefit. In this gentleman's case there was decided weakness in the external recti. He has been entirely relieved by the constant use of glasses consisting of $\frac{1}{2}^{\circ}$ prism base out before the right eye and 1° prism base out before the left. More than once when his glass has been broken he has experienced a return of headache and vertigo, which were promptly relieved by again wearing his prisms.

METHOD OF EXAMINATION.—In a paper of this character only the most brief reference to the methods of examination is permissible. No thorough ex-

amination of the refraction can be made in a young person, say under thirty years of age, without suspending the accommodation. For this purpose in children the sulphate of atropia is to be preferred, in adults (unless the case is very complicated) hematropine. The direct ophthalmoscopic examination is valuable as approximately indicating the refraction. Javal's ophthalmometer is of the greatest advantage in saving time and confirming other tests, but cannot be relied upon alone.

REMARKS.

Dr. W. F. Boggess.—To the general practitioner the subject of eye strain, as an etiological factor in the production of headaches, is an extremely interesting one, and one which we must recognize especially in women and young girls. If the headaches continue for any length of time in my own practice, after trying constitutional treatment and looking for trouble elsewhere, I send the patients to an oculist to have their eyes tested. In 95 to 98 per cent. of cases thus selected the headaches are relieved by proper adjustment of glasses. I do not try to attribute the cause of the headaches to some genital or dyspeptic trouble, or to any other constitutional trouble, when a patient consults me who has already been treated for headache, until after glasses have been tried and proved ineffective. I am sure that it takes very little eye strain to produce marked constitutional symptoms. I cannot understand how such a slight amount of eye strain as we sometimes see corrected by the adjustment of glasses can produce such marked symptoms. Patients often become very nervous, almost neurasthenic, from slight eye strain. Especially is it true in children that by the proper adjustment of glasses not only is the local disorder (headache) relieved, but the general condition is improved.

Dr. Carl Weidner.—Experience has led me to believe that many cases of headache and some of the grosser nervous

troubles are due to so-called eye strain. In many cases we see marked astigmatism associated with what appear to be muscular troubles, which are undoubtedly relieved by correction of the defect of the eyes. In some cases, however, the nervous system seems to have received some more or less permanent damage, and the headaches will persist even after relief of the eye trouble.

Dr. W. O. Green (present by invitation).—The essayist failed to mention one point which is of considerable importance in connection with eye strain as well as headache, viz.: rectal troubles. It is not a violent stretch of the imagination to realize that if headaches result from uterine troubles, they may also be produced by rectal affections.

Two cases have recently been referred to me for rectal examination which were characterized by violent headaches supposed to be due to some form of eye lesion. In each case ulceration was discovered low down in the rectum, and with its correction by proper treatment there resulted a complete disappearance of the headache.

Dr. Dabney very kindly referred to me some time ago a patient whose intense headache was partly due to the eyes and partly due to rectal trouble. I operated upon the rectum, and found that while his eye trouble was not entirely relieved, it was greatly modified after relief of the rectal trouble. His general health was markedly improved and there was likewise improvement in the condition of his eyes, so that there was little difficulty afterwards to manage the headache with appropriate treatment to the eyes.

Dr. P. F. Barbour.—All general practitioners are interested in the subject of headaches, which are extremely common and often most intractable affections. In many cases I think most of us, like Dr. Boggess, are glad to have somebody to whom we can send these patients occasionally.

I am especially interested in eye strain

because of its effect upon children. Many children are thrown back in their work at school by the fact that their eyes are not able to stand the studying in the first place, and the headaches that are produced thereby have such a depressing effect upon the nervous system that more serious nervous lesions are apt to develop. While I do not believe that epilepsy is the result of the eye strain, and I would infer from Dr. Dabney's paper that he takes the same view, at the same time there are other lesions in the child which might be brought on or aggravated by continual headache. I do not believe migraine would be relieved by any kind of treatment of the eyes, as I do not regard this as a reflex disease. Most of the cases I have seen have been due to uric acid, or rather the xanthin compounds.

Another point which has been attracting the attention especially of the Eastern school men, is the eye strain which is due not to errors of refraction or other conditions of the visual apparatus, but is the result of bad school hygiene, such as poor light or bad situation of the light. We all realize how disagreeable it is to read with the light shining in our eyes, and this is equally true when the printed paper has that glazed finish which acts almost as a mirror to reflect light. A committee for the public schools of Boston has been investigating these points with other sources of eye strain, and their work should prove valuable to all who are interested in the physical and mental health of children.

Dr. S. G. Dabney.—There is no question in the world but the general health is affected by eye strain, and the headaches consequent thereon. A lady in this city, the wife of a physician, has a very high degree of astigmatism, and was first fitted with glasses by an oculist in Boston, where she was then attending school. She told me, previous to the use of glasses, and up to that time, she was anemic and even neurotic. Immediately after receiving the proper glasses her general health improved and she became stout and well.

I suggested that there must have been some other causative factor at work besides the eye strain, though this might have had something to do with it. She evidently, however, needed a change in her glasses when I saw her, and she was then in a condition quite similar to what she described herself as having been in when first examined. A change and adjustment of glasses which she then needed caused her to gain rapidly in flesh and improve in color. So I think eye strain by its injurious effect on the nervous system does in rare cases have a decided influence upon the general nutrition of the patient.

In regard to rectal troubles: I am glad Dr. Green mentioned this point. I think it is a very important source of reflex irritation. Besides the case he mentioned I recall several others that have received the greatest benefit from symptoms which they referred to their eyes by having inflammatory conditions about the rectum cured. I remember one, the wife of a well-known gentleman in this city, who had been fitted with glasses by another oculist in the city, but she found them altogether unsatisfactory and came to me for another examination. I did not make a thorough re-examination, but so far as I went, thought the glasses were correct; and in questioning her about other conditions found she had some rectal trouble, the correction of which immediately cured her of all symptoms referable to the eyes. We can well understand that reflex troubles might result from the rectum as well as from the uterus, and various other organs that are charged with the production of nervous symptoms.

As to asthenopic disorders of children: That opens a very wide field, and might be very well made the subject of a paper by itself. There are two or three reasons why these errors in children are apt to cause especial trouble. One, perhaps the most important, is that the nervous system of the child is more susceptible to all kinds of external impressions. Another,

which may be equally potent, is that the structures of the eye in childhood are relatively softer than they are in adult life. A near-sighted child, for instance, is apt to become more near-sighted between eight and eighteen.

The part that hygiene, especially school hygiene, plays in the eye symptoms of childhood, is important: I am sure for one thing that children are kept in school too long; the school hours are out of proportion to what their health will allow. Another reason, no doubt, is oftentimes the injurious adjustment of light to which Dr. Barbour refers. Another reason is that they are required to work too much at home, with insufficient outdoor exercise and play. The factor in which oculists are especially interested is the one I just mentioned, i. e., that the structures of the eye in childhood are more delicate, more susceptible to change, than in older persons.

Dr J. M. Krim.—Do you often find vertigo coincident with headaches due to eye-strain?

Dr. S. G. Dabney.—Only occasionally. Ocular vertigo is rare. We see cases quite frequently where the adjustment of glasses at first causes vertigo. The glass may be right, but the sense of distance and sense of size are changed, and the patient has to learn to adjust his nervous system to these new conditions. In many cases where convex glasses are used, the patient complains that the ground looks like it was coming up to him, he stumbles when he tries to walk, etc., which is due to vertigo that comes from suddenly disturbed relations as to distance and size. Vertigo from eye strain itself is not common. Of course I do not refer to those cases where there is paralysis of any of the muscles of the eye; vertigo in such cases is exceedingly common. It is generally occasioned by double sight. Vertigo from insufficiency of the ocular muscles without paralysis also occasionally occurs. I mentioned a case in my paper, who undoubtedly has

ocular vertigo, which is cured by the habitual use of a weak prism.

It may seem presumptuous for the specialist to criticise the general practitioner, yet sometimes I think some of our best physicians are in error in regard to the question of eye strain. They recognize it in the abstract, but they are apt to yield to the desires of the family not to put glasses on a child.

I am prompted to make this remark by the following circumstances: A child eight or ten years of age was brought to me by his mother; I found that he had a very considerable degree of astigmatism and recommended glasses. The parents afterwards consulted one of my colleagues who also advised glasses. I met the father of the child shortly afterwards and he said he had been around to doctor so and so, the family physician, who, by the way, is one of the best in the city, and he said it was all nonsense, that the child did not need glasses, that all he needed was a little tonic to build up his nervous system. Doubtless the tonic may be useful and so also would restricting the child's studies and close application, but after all it is the optical defect that produces his headache and makes him different from other children.

Dr. Weir Mitchell has written a very interesting paper in the last year or so reviewing the history of eye strain in its connection with headache and other nervous symptoms, and he especially emphasizes the importance of early correction. If a patient has been the subject of headache for fifteen or twenty years, even if it is an eye headache, you cannot promise with the same certainty that relief can be afforded, as if glasses had been put on earlier. You may remove the cause of epilepsy, but when the habit has been once acquired the convulsions are apt to continue. When the headache habit has been acquired the impression will often persist after the exciting cause is removed. The practical lesson is, ocular headaches ought to be corrected as soon as possible.

*SOME DIARRHEAL DISEASES OF CHILDREN.**

By F. H. STANERO, M.D., Springville, N. Y.

It is not my purpose to-day to read an exhaustive paper on diarrheal diseases of infancy and childhood, but only to touch lightly on certain points of treatment of a few of the more common troubles that we see in this section of the country. So much has been written, so many experiments have been made and so much pathological work has been accomplished, that theories and divisions have no interest for us to-day, except as they appeal to us as clinicians. 'Tis said by a writer on children's diseases, Holt, I think, that 95 per cent. of diarrheal diseases in children occur in bottle-fed children. This may seem an exaggerated statement, but it is true in the main in the country, and may be wholly true in the city.

Mother's milk is the ideal baby food, and I formerly insisted on every mother nursing her baby; but after two lamentable failures, one of which resulted in death of the child, I now examine the milk of a mother whose baby is not thriving and if it shows a condition that cannot be remedied, I wean the infant.

I have had no success with the artificial so-called "foods" of the market, but have used successfully cow's milk, when properly diluted and modified. It is best diluted with barley water, oatmeal water or lime water, to the proper density, and sweetened with cane sugar, not neglecting to add salt. Infants need salt and sugar in food just as they need water to allay thirst. Because their diet is liquid we must not judge they do not need water. We have seen irritable, feverish, crying babies drink ravenously of cold water and drop off into a quiet, peaceful sleep. Jacobi says there is no virtue in lime water, but it has always worked well

*Read before the Medical Society of the County of Erie, January 11, 1898 (From *Buffalo Medical and Surgical Journal*).

in my practice; it may be on account of the dilution and not from the virtue of the alkali.

From my observation, a thing much neglected in treating diarrheas of children is the daily examination of the diapers of the sick babies. The mother's description may be very vague; she may give a wrong impression entirely; fat may seem to her to be curds, and vice versa, and the color sense is poorly cultivated among the laity; she cannot be expected to distinguish between bile and blood changed by the intestinal juices. And especially in these cases of artificially-fed babies, I deem it of great importance to watch the stools, the appearance of which will give so many hints for changes in care and treatment. Curds in the stools demand greater dilution, lumps of fat decrease of cream, and so forth.

There are two or three kinds of diarrheal diseases that we see constantly during the summer months, which differ in cause, course and symptoms, as well as treatment and prognosis. The one that causes as much sickness and as many puny rachitic babies, if not as many deaths, as any other, is the acute dyspeptic diarrhea, as described by Osler and others. As the name implies, this class of trouble is caused by either fermented or improper food or a lowering of the digestive power of the infant through previous illness, atmospheric heat or general weakness, causing imperfect or delayed digestion. The undigested food acts as an irritant and nature's efforts toward health cause the diarrhea. The child seems in usual health, except restlessness, slight attacks of colic and crying, an increase in number of stools, which are normal in appearance, except presence of undigested curds—if the diet is milk—or other undigested food. Also, the stools are extremely acid and excoriate the surrounding parts and have a sour odor.

If properly treated in this stage, by a dose of castor oil, syrup of rhubarb, calomel or the milder gray powder, the intes-

tines will be cleansed of the irritating material, and with a change to proper diet all is well. In fact, it is a mild affair and often passes by without the calling of a physician, unless the improper feeding is continued, when the symptoms grow worse, vomiting occurs, the temperature rises, the stools become more profuse and contain more fluid and tenesmus appears with mucus and blood, showing a general involvement of the intestinal tract.

At the beginning of vomiting the physician is always called, as that is the nervous mother's sign of cholera infantum. There are three indications for treatment: first, empty the intestines, disinfect the intestines, then correct the diet. If vomiting is constant get the stomach quieted before giving any laxative, although 1-10 grain tablet triturates of calomel sometimes seem to act as a sedative and laxative too. The multitude of drugs advised to restrain vomiting proves the unreliability of them all, and in my practice I have given them all up and only order a withholding of all nourishment, even water except in very small quantities, for six, twelve and even twenty-four hours. When the vomiting ceases, I begin to give albumin water by the spoon, gradually working back to a normal diet. For the disinfection of the intestines, calomel, 1-10 grain doses, four to six times a day and continued for a few days, work favorably. Salol has proven of much value, and Jacobi recommends naphthalin and resorcin very highly. Astringents, such as tannic or gallic acids, combined with large doses of bismuth subnitrate, have been of value in my cases, but the remedy which has been of the greatest aid to me is arsenite of copper. There is no drug which appears to help so many physicians and again fails to have any effect in the hands of others as this drug, but, in my hands, dissolving 1-100 grain tablet in water, four ounces, giving 1 drachm doses every fifteen minutes, until an hour or two has passed, then continuing the dose every hour, gives good results. The stools

improve in character, their number is lessened and griping ceases within twelve hours.

In the same children, which have several attacks of dyspeptic diarrhea during a season, appears the more dangerous and startling cholera infantum. This disease sets in in the hottest weather. Seibert claims that atmospheric heat bears a direct influence on diarrheal diseases, and humidity and barometric pressure no influence. Diarrheal troubles begin to increase in the latter part of May, reach the maximum in August and September and decrease as cooler weather comes on. We have all noticed how a hot spell increases the number of cases of this kind and, again, how a sudden cool wave will benefit the little sufferers.

Without doubt cholera infantum is of germ origin, although no constant organism has yet been found. No warning is given in this disease; the onset is sudden, the collapse extreme; stools profuse, watery, serous and numberless, at first very offensive, but later become odorless and fade into a napkin, leaving only a slight stain, as though the child had urinated; temperature rises very high, pulse feeble and rapid; from being restless at first the child passes into stupor.

This is the class of cases that needs sustaining and stimulating treatment, which the constant vomiting hinders, if it does not prevent. Washing out the stomach sometimes relieves the vomiting, and if large quantities of water are given in vomiting the stomach will wash itself. High injections of cold water will relieve high temperature, but children do not bear cold water well and hot water will be absorbed and act as a stimulant, especially if rendered alkaline by the addition of some salt. Astringents or opium may be given by rectum, but it is better to give morphine hypodermatically; a child one year old may be given 1-80 to 1-40 grain every hour or two for a few doses with safety and benefit. Brandy or champagne given cold may help settle the stomach

and control collapse, and if diluted may be used hypodermatically or per rectum.

The advice of the best authors is to sustain the patient by combatting collapse with external heat and hot baths, giving strychnine nitrate hypodermatically, with the addition of morphine for its effect on the bowels and sustaining effect on the heart. If the stomach will retain anything, champagne and such diffusible stimulants as camphor, ammonia or musk may be given. If we are fortunate to reach a state of convalescence great care will be needed, as these cases are prone to pass into a state of entero-colitis. Milk should be withheld, and albumin water containing brandy will act nicely until milk, largely diluted, or meat juices, or even scraped raw beef can be borne. General tonics, such as iron, strychnine, hypophosphites, are needed to restore health.

The dyspeptic diarrhea neglected, and cholera infantum with the best of care, will often pass into a chronic form, known as entero-colitis, which is distinguished by pain and tenderness over the colon, some tympanitis all over abdomen, passage of semi-solid stools, mixed with mucus and blood. This state alternates with sudden attacks of acute diarrhea with profuse and watery stools, accompanied by much griping and pain. These cases must be kept absolutely quiet in the cradle, and do better if the cradle is kept out of doors during the daytime. Especial attention must be given to the diet, which should be so regulated that the least possible residue passes over the inflamed intestines. Opium is about the only drug that acts well when given by the mouth. Opium should never be given in cases where the stools are offensive, however much it may seem to be indicated, and on the contrary it will act well in those cases of diarrhea with natural smelling passages. High colonic injections of salt water do good in some cases, cupric arsenite, well diluted, acts favorably at times, as do gallic and tannic acid. If obstinate, nitrate of

silver $\frac{1}{2}$ drachm to water one quart acts well, being cautious to follow it by injection of salt water—some give the salt injection first. If there is much tenesmus and some blood, injections into the rectum of starch and laudanum give great relief.

In infants I have never used anything but a soft catheter of linen in giving injections high up, and only introduce it about six inches. By having the syringe bag only slightly elevated and the baby lying on its back the solution will slowly pass up into colon and a large quantity can be received and retained with very little discomfort. Convalescence is slow and the intestines are permanently disabled in some cases.

As I said in the beginning, I have only touched upon a few troubles, and those the ones the most common and familiar, but we oftentimes learn more from criticism and discussion than from the original papers, and thus some good may be accomplished.

*DIGITALIS—ITS USE AND ABUSE.**

A well timed and valuable editorial is in March No. of the *Monthly Encyclopædia of Practical Medicine* on this drug, which also points out the non-utility of studies on the lower animals. Although digitalis has been before the medical world over 350 years, the majority of the profession remain ignorant of its physiological relations and rational administration.

Modern research has established that digitalis is not a cardiac sedative and depressant, but a tonic and stimulant. Yet its action is materially modified by many causes—perhaps the chief of which is idiosyncrasy. It has an elective affinity for certain organs according to the preparation employed. Notably, its stimulant cardiac action may be delayed for 24 to 36 hours after the initial dose, while this action upon the heart and circulation may persist for several days after the agent is withdrawn.

The average tincture of the shops (as every practitioner has realized) is usually inert or of uncertain age, plucked perhaps at any season and stage of growth, and cured without method. Little or no virtues accrue to foliage that is not of the second year's growth of the uncultivated foxglove, which should be gathered just before the close of the season for flowering, and especially dried in the dark at a carefully regulated temperature. The best digitalis, after ten or twelve months, even if kept in well-guarded and stoppered tins and jars, will have parted with most of its virtues. Hence the necessity of selecting *freshly gathered* leaves for preparing infusions, tinctures and fluid extracts. Adulteration is another source of uncertainty—the leaves of black nightshade, black mullein and the common potato being the most usual adulterants. Make a concentrated infusion of the suspected leaf, and test on an opalescent plate with a drop of ferric chloride; if the reaction is *deep green*, it is foxglove; if blue, it is an adulterant.

Tinctures made from fluid extracts are not reliable; only those made by maceration and percolation of the freshly gathered leaves should be used. Solid and fluid extracts, or abstracts, unless made by the substitution process, avoiding any but the most gentle or moderate heat, do not represent the true virtues of digitalis. A brown or black hue, to the exclusion of green color, is *prima facie* evidence of improper manufacture. The most reliable tinctures are had from German, eclectic or homeopathic sources, as these are made from fresh undried leaves—the two former by maceration and percolation; the latter by expression of juice and subsequent mingling with an equal proportion, by weight, of 87° alcohol. The European ethereal tincture (twice the strength of alcoholic tincture, U. S. P.), and the acetum digitalis (maceration of 1 oz. of leaves in 9 ozs. vinegar, and 1 of alcohol) are other excellent preparations.

Digitalin tablets or triturations are not constant as to strength, and hence danger-

* From *Va. Med. Semi-Monthly*, April 8, 1898.

ous. So-called tablets of the tincture or fluid extract are usually inert.

The latterly exploited "active principles" are all glucosides, and not alkaloids, as claimed by manufacturers. They are not constant in therapeutic nor in physical properties—being capable of further chemical subdivision. To re-echo the opinion of Roth, *digitalin*, *digitalein*, *digituline*, *digitaleine*, *digitalin verum*, *digitoxin*, *digitaliresin* and *digitoxiresin* "are not to be recommended." They are variable in strength and action, as they are in dosage and titles, and often the supposed same agent is greatly at variance as regards different samples. Some idea of the ignorance and confusion existing regarding these glucosides is shown by the variance as to dosage. Thus the dose of *digitoxin* given by different authorities varies from $\frac{1}{1,300}$ th to $\frac{1}{1,2}$ d grain among seven authorities. *Digitalin verum* varies from $\frac{1}{300}$ th to $\frac{1}{1,1}$ th grain among six authorities.

There is no such thing as "cumulative action" of digitalis except as any drug may become "cumulative" under its ignorant or careless use, without regard to the problems of elimination. When blood pressure is high, kidney excretion may be arrested, as also the skin function; it is to the inhibition of elimination that untoward ("cumulative") action is due. Even this may often be prevented by exhibiting the drug with some more direct stimulant to the renal organs.

Digitalis is not the highly dangerous remedy generally surmised. The tincture has been given in $\frac{3}{4}$ ss doses every fourth hour in delirium tremens. The late Mr. Jones has so given it in 70 cases without a single untoward result. Ringer and Sainsbury and scores of practitioners have likewise successfully treated this disease. Mr. King (Eng.) administered like doses to combat acute inflammation; he sometimes gave 3 ij of tincture to children a year old; and in all his extensive experiences, he never witnessed a single dangerous symptom. Pareira frequently gave 3 j of the best quality "to an adult thrice

daily for two weeks without observing any marked effects." Dr. H. C. Wood asserts that he "never saw a case where digitalis seemed to do serious harm by toxic action," even when given in very large doses.

Of all the abuses of digitalis, not one is so great, or so frequently and fatally detrimental, as that accruing to its use as an antipyretic. That it powerfully affects febrile temperature is undisputed; but its antithermic action, at the same time, induces a rise of blood pressure, more or less proportionate, without any increase of elimination of morbid products. Fever in itself is a physiological process—an attempt of nature to overcome toxic and effete materials—and its sudden decline, without provision for increased excretion and elimination, is a potent means for inducing auto-intoxication. In a patient with post partum pyrexia of 105° F., noted by Fothergill, the temperature was promptly reduced by digitalis to 101°; yet the case steadily progressed to fatality, evidencing that the fall was not due to general improvement, but to the antithermic action of the drug *per se*. Elimination was not increased; the emunctories were not stimulated; and the morbid products remained unconsumed to poison the economy, and the ultimate result was perhaps accelerated—doubtless due to resorption and general toxemia. In one year, Dr. G. Archie Stockwell witnessed the deaths of three patients from simple remittent fever, each of which apparently should have recovered, in each of whom death was unmistakably referable to ignorant and injudicious use of digitalis as an antipyretic.

Another abuse of digitalis is its general employment alone as a diuretic—without regard to the nature and character of the preparation. The glucosides of digitalis are unsafe to meddle with—more particularly, owing to their precarious chemical composition. They are altogether too potent for careless or speculative use. The tincture alone is not even relatively diure-

tic except as it may act through a diseased heart or imperfect circulation; the same is equally true of the fluid and solid extracts. But, paradoxical as it may seem, dry powdered leaves are more apt to produce diuresis when given in conjunction (but not simultaneously) with alcoholic beverages—more especially when the latter are taken hot and greatly diluted. The true diuretic preparation, however is the infusion. Is this specific action referable to the aqueous constituent? Or, is not the glucoside, *digitonin*—closely allied to scoparin, senegin, *et al.*—likewise a potent factor? Both should be considered, since the more active glucosides are little or not at all soluble in water. The infusion, moreover, is in no sense antithermic, though it may sometimes relatively and reflexly induce some degree of antipyrexia; it does not tend to increase general blood pressure, while it does promote excretion and elimination, by the skin as well as through the kidneys.

But to be effectively diuretic, digitalis infusion must be given in large doses, or its action reinforced by some other agent—the most effective for this purpose being cantharides, though broom, squill or juniper usually receive preference. The ingestion of considerable quantities of fluid also is always desirable. Digitalis alone, in infusion, holds its own as a diuretic in Great Britain and in Europe, because it is seldom employed in the half-hearted, trembling way that generally obtains in America. Abroad it is customary to fairly drench the patient with a “tea” made with two handfuls of leaves, and drunk *ad libitum* until ultimate narcosis, vomiting and purging supervene. In Ireland, many practitioners find an ounce of fresh digitalis leaves, infused in a gill of water, repeated as required, a most effective remedy for epilepsy.

It should be remembered that when there is great tension of the parietes of a cavity containing serous fluid—abdominal, pleural or pericardial, owing to extreme accumulation—neither digitalis nor any

other diuretic will be effective. Here it is necessary first to relieve the tension, either by a hydragogue or by paracentesis, when the diuretic drug will act more favorably and tend to prevent further accumulation.

NEW LOCAL ANESTHETICS IN OPHTHALMOLOGY.*

Since the great discovery of Koller, of the possibility of practical local anesthesia through cocain, new drugs have, from time to time, been heralded to the profession as possessing the same power of producing local anesthesia. Most of these have never advanced beyond the stage of novelties, which might claim the interest of the surgeon perpetually on the lookout to have his name associated with the latest fad. But, recently, two drugs have established their right to a wider trial, and the probability of their permanent value and real superiority in certain cases. One of these, eucain, has already been noticed in this journal, vol. vi., p. 38. The other is holocain, first noticed in English ophthalmic literature, by H. Derby, *Boston Medical and Surgical Journal*, June 3, 1897. It is one of the multitudinous coal-tar products, occurs as a white, crystalline substance, and is soluble in cold water to only about 2 per cent. The solutions thus far chiefly employed have been of the strength of 1 per cent. of the alkaloid.

Both of these drugs appear to be efficient local anesthetics, producing as complete insensibility to pain as the solutions of cocain commonly employed, at least, for some ophthalmic operations. Hotz found that the anesthesia with holocain was more brief than that of cocain, recovery from it beginning a little more than five minutes after its instillation. Wurdemann and Black thought that the action of holocain was quicker and more lasting than that of cocain. Our own observation shows no very great difference between the actions of the drugs, except

* Editorial by Dr. EDWARD JACKSON, in *Philadelphia Polyclinic*, March 26, 1898.

that the influence of holocain is briefer. Both eucain and holocain cause more pain when introduced into the conjunctiva than does cocain. The instillation of a 2 per cent. solution of eucain is extremely severe. The makers of the drug, when their attention was called to this fact, brought out a somewhat different substance, which they called "eucain B." This is distinctly less painful than the original "eucain," but is still much too severe for general use in the conjunctiva. Dispensary patients, who come expecting to be hurt, may submit to such an application without any strong protest. But, from the trials in our own eyes, we have reached a very decided opinion, that it is unjustifiable to make an application of "eucain B" to the conjunctiva without first instilling cocain to prevent suffering. On this account, eucain may be ruled out as a practical local anesthetic for ophthalmic work.

With holocain, however, although the solution produces distinctly more smarting than do ordinary solutions of cocain, this smarting is not severe, and lasts but a very short time. The crucial test of trying it on one's own eye shows it to be an efficient and satisfactory local anesthetic.

Both eucain and holocain differ from cocain in producing no dilatation of the pupil and no contraction of the blood-vessels of the part to which they are applied. Indeed, the first causes a very decided hyperemia, while with the second no change in the vessels is noticed. The absence of subsequent dilatation of the pupil is, in some cases, an advantage over cocain, although even with the latter drug, the pupil contracts well when the eye is exposed to a strong light. Its freedom from liability to cause anemia of the part, and consequent irregularity of the cornea and softening of the globe, may render holocain of some value for certain practical uses.

On the other hand, for some operations, as those of removal of pterygium, or tenotomy or advancement of recti, the

power of the cocain to prevent bleeding during the operation is of great value, and the absence of such influence from the other drugs mentioned, renders them distinctly inferior for use in such operations.

Regarding certain general effects of the drugs which may influence the verdict as to their usefulness, the claim is made that holocain in the solution commonly employed is distinctly bactericidal, and that, therefore, solutions of it keep themselves sterile. This seems not of great importance, when we remember that the addition of small amounts of formaldehyde, 1 to 5000 or less, will probably render a cocain-solution even more certainly aseptic, and will not cause any more irritation when the solution is instilled. The claim is also made for the new anesthetics that they are free from danger from causing systemic poisoning. But when we remember the similar claims that were made for cocain when it was introduced, and the reckless manner in which it was at first used, until numerous deaths demonstrated the danger of large doses, we will certainly employ with great caution new drugs, that, having demonstrated their powerful influence over the peripheral nervous system, are presumably dangerous poisons to other nerve-tissues. Certainly, the assertions of manufacturers and experiments of physiologists will not induce the prudent surgeon to overstep the limits which he recognizes in the case of the local anesthetic, with which the profession has had the largest clinical experience.

APOCYNUM.—Although long an official drug, apocynum has not received the attention of the medical profession that it deserves. The root of apocynum cannabinum, a perennial herb, indigenous to the greater portion of the United States and Canada, is used. It is a powerful diuretic, and is useful in dropsical conditions, especially of hepatic origin. The dose, as a diuretic, in the form of a fluid extract, is from one to five drops. Larger doses are extremely irritating, and induce vomiting and purging.—*Penn. Med. Jour.*

THE AMERICAN THERAPIST.

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CLINICAL APPLICATIONS OF DRUGS.

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Subscription Price, - - \$1.00 per annum.

PUBLICATION OFFICE, 73 TO 75 FULTON ST., NEW YORK.

Address all communications to

THE AMERICAN THERAPIST,

P. O. Box 1170.

New York City.

Vol. VI.

MAY, 1893.

No. 11.

Editorial.

LAWS REGARDING ADULTERATION OF FOOD.

Our attention is called to this point by an article on Artificial Butter, by A. L. BENEDICT, in *What to Eat*, a lay journal of dietetics and domestic science. The writer takes the ground that legislation should simply compel foods to be sold for what they really are, allowing the buyer to choose between artificial and natural butter. He also calls attention to the danger of transmission of tuberculosis by natural butter, though acknowledging the danger to be relatively slight, and believes that for army rations, institutional use, etc., practical economy should take precedence over sentiment.

We believe that the increasing dissemination of semi-scientific information among the laity and the growing tendency to interference by legislation with the natural actions of the people should be met with information by the medical profession, in regard to a number of matters with which this profession alone is capable of dealing with thorough understanding. The massing of population in cities makes it necessary, in order to avoid real suffering, that the staple foods should be obtainable cheaply and at prices which do not fluctuate; also that such foods should be free from causes of disease. These requirements can not be fulfilled if

we are forced to depend on production in small quantities by farmers. Thus, the manufacturer of artificial foods or the wholesale preparer of green fruits and vegetables, who is able to buy at wholesale, to supervise every detail so as to insure uniformity, and who is accessible to inspectors, should be looked upon as beneficent factors in civilization, not as examples of dishonest tendencies.

The same fight has been made for and against the manufacture of glucose, and with same array of sentiment and commercial honesty on the one side, and of physiological information and economy on the other. Intelligent members of the laity have been prejudiced against glucose on the ground that sulphuric acid is used in its manufacture, or that the refuse, as carted away by the suburban farmer for cattle-feed, is not pleasing to the eye or nose. But, there is little doubt that the output of the majority of glucose factories is a nearly chemically pure sugar. Glucose is the natural sugar of most plants, a few only producing saccharose. So far as physiological chemistry can teach us, the former is the finished stage of carbohydrate digestion in the animal body, while saccharose is isomeric or polymeric with maltose, or incompletely hydrated starch, and with lactose or the sugar of milk. Thus, the only rational argument against pure glucose is that which obtains against any digested, as opposed to an undigested food. This argument is always waived when the digestive power of the organism is low and the nutritive needs high. It must also yield to individual experience in many instances. Economically considered, glucose has the same advantage over saccharose as oleomargarine over butter, except that the sweetening power of saccharose is somewhat higher. Whenever fruit or other foods are boiled with cane sugar, at least a partial conversion of saccharose occurs, with the formation of glucose. Thus, for canning and similar domestic uses, the payment of a higher price for cane sugar

instead of using glucose at the outset, is about as nearly pure "notion" as can be imagined.

We have considered only two foods artificially produced as substitutes for older and more natural products. Oleomargarin, variously named, and glucose are the van of an array of artificially formed or modified foods which seem destined in the near future to encroach seriously on the more natural bounty of the earth. Three factors are combined in what seems to be a dietetic revolution, science, common sense and fraud. Let legislation eliminate the third and leave the other two free to contend with prejudice and that preference in taste about which "it is useless to argue." B.

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INTESTINAL CATARRH. — 1. During the heated season, keep the body cool, but avoid extremes. 2. Regulate diet properly. 3. Impress on the mother the importance of the fact that the doctor, not the neighbor, should be called to treat the very first variation from normal digestion. 4. Also the fact that the opinion of the doctor as regards food is quite as important as in regard to medicine. 5. See that less but more digestible food is given. 6. Use plenty of pure water internally and externally. 7. Cleanliness must be insisted upon. — Dr. R. Beatie, in the *Medical Age*. — *Pediatrics*.

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NEURITIS. — Dr. Curran Pope, of Louisville, in an article in the *Medical Fortnightly*, recommends:

R Ammonii bromidi gr. xv
 Ammonii salicylatis gr. ii
 Liq. potassii arsenitis M i
 Syr. simplicis M v
 Aq. menth. piper, q. s. . . . dr. i

This dose is given every three or four hours.

You will find that the stimulating properties of the ammonium and the sedative properties of the bromide will have a pleasing influence over the painful stage. The salicylate of ammonium stimulating elimination will remove the remainder of the toxic material, which is so often the so-called lithic or rheumatic poison.

Current Literature.

QUININE IN LABOR. — Hammond (*Amer. Gynec. and Obstet. Journal*, April, 1898, — *Maryland Medical Journal*) in a very painstaking and careful series of observations, has studied the action of quinine in 100 cases of labor. His observations have been carried out in the following manner: One hundred cases in which, before labor, there was no reason to suspect that the case would have anything but a normal, spontaneous termination were selected, the interval between contractions and duration of contractions accurately noted in minutes and seconds; quinine was then administered in 10-grain doses and repeated every half-hour until thirty grains had been administered. One-half hour after administration of the drug observations on the duration and intervals of the contractions were again made and the results tabulated. The effects on the uterus, after it had emptied itself of the product of conception, was also carefully studied, and note was made, first, if there was any excessive bleeding after delivery, and, second, if there was any tendency to hour-glass contraction.

The results of this series of observations show that of thirty-eight primiparae thirty-five show increase in the frequency of contractions after administration of the drug; this increase in eight of these thirty-five cases did not exceed one minute; therefore it will be fair to conclude that there was a marked effect in twenty-seven. Observations were made on sixty-two multiparae, and in these marked effect could be noted in thirty-five. As regards the effect on the uterus, but five of the 100 cases evinced any tendency to excessive bleeding, and in no case was there any hour-glass contraction noted.

The author admits that he began the work as a sceptic, but after a careful study of his tables says that the prompt

increase in the duration of the contraction and diminution of the interval between the contractions which have so uniformly occurred in this series of cases would seem to justify the belief that this drug does exercise a marked influence on the expulsive powers of the uterus.

MAXIMUM DOSES OF SOME REMEDIES IN SUPPOSITORIES FOR CHILDREN.—(*Pediatrics* quotes from *La Med. Mod.*, 1897, viii., 397). In adults with a healthy stomach, medicines are best administered by mouth. In children, however, it is often not practicable, as their digestive apparatus is frequently delicate, and will not bear medicines. Stronger remedies easily provoke vomiting and diarrhea, and thus lose their effect. At times the child will also object to the administration of any medicine, and it must be given by force, which is a distressing operation. It is altogether different when the remedy is given *per rectum*, which may be done without the child's being aware of it. The indication for the use of medicated suppositories is, therefore, met with much more frequently in children than in adults. Absorption by the rectum is perfect, but varies in different conditions. It does not take place as rapidly as by the stomach and intestines. We may, therefore, always employ as large a dose as when we give it by mouth, and increase the dose after we have studied the child's tolerance.

It is best to dissolve the remedy in the suppository, and thus gradually get its effect.

The maximum doses of some remedies for children are as follows:

Opium.—Pulvis opii may be given in a suppositoary in doses of one milligramme ($\frac{1}{100}$ grain) for each year of the child's age, and this dose may be repeated in severe cases every two hours. Toxic symptoms should be carefully watched for and the remedy discontinued on their appearance. These doses are small ones, and may be increased.

Aconite shows its action in children only in large doses. We must therefore administer it in repeated small doses to obtain its effect. For example, 1 to 2 drops of the tincture for a suppository in a year-old child, and increase the dose up to ten or twelve drops in twenty-four hours for each year of life.

Belladonna acts as an excellent sedative in cough, and exerts a very favorable influence on the muscle-fibres of the intestine. We may use one centigramme ($\frac{1}{100}$ minim) of extract of belladonna in twenty four hours, divided into three to four suppositories, for every two years of age.

Digitalis.—Powdered digitalis is with difficulty absorbed by the rectum. The tincture should therefore be used, the maximum dose for each year of life being four drops, divided into two suppositories.

Caffeine is usually injected subcutaneously. It may, however, be administered in a suppository with equal parts of benzoate of sodium. For example, ten centigrammes ($1\frac{1}{2}$ grain) to a suppository, using two daily for each year of the child's life.

Quinine is best given in suppositories, the daily maximum dose being fifteen to twenty centigrammes ($2\frac{1}{2}$ to 3 grains) in two suppositories, for each year of life.

Antipyrin may be given in the same dose.

Acid salicylic.—Fifty centigrammes ($7\frac{3}{4}$ grains) for each year of life, in divided doses of three or four.

Nux vomica.—One centigramme ($\frac{1}{100}$ grain) for every two years in three suppositories. Strychnine should only be given to children over ten years of age.

Mercury should only exceptionally be given *per rectum*, and then only in the form of calomel, five centigrammes ($\frac{3}{4}$ grain) in a suppository for each year of life.

Iodine and its preparations are exceptionally well borne by the rectum and fully absorbed. Twenty centigrammes (3 grains) for each year of life, in two sup-

positories is the maximum dose. Five centigrammes ($\frac{3}{4}$ grain) if it is to be continued.

Bromine preparations should be given in the same doses, except in severe spasm, when we may exhibit one gramme (15.4 grains) for each year of life, in two suppositories rapidly following each other. For example in laryngismus stridulus.

The above is a general view of the drugs mainly used in rectal medication in children. Where tolerance has been established the doses should be increased.

TREATMENT OF EPILEPSY.—The following summary is taken from a Study of Epilepsy by Drs. W. Sinkler and F. S. Pearce, in *Penn. Med. Journal*, Sept., 1897:

The condition must be battled with along the lines of heredity. The history of this disorder being in a family should interdict marriage. The history of insanity should likewise. Hygienic care of the patient should be enjoined. Attention to reflex disturbances in any of the special senses should be well worked out and corrected. Diet and idiosyncrasies as to food should be specially guarded. Indigestion is, no doubt, an exciting cause of epilepsy and of attacks. Gastro-intestinal therapeutics is of great value. Intestinal antiseptics do especial good in cases of fermentative dyspepsias. Bromides are the standard remedy to stay the spells, and should be given sparingly. Digestants will often aid in lessening attacks as much as any cerebral depressant. Indeed, strychnine may be indicated where atony of the general system obtains. Other drugs that have been of service as substitutes for the bromides are trional, solanum Carolinense, etc., and finally, Flechsig's opium treatment may do good in exceptional instances. Hypnotism deserves mention as a possible means of relief of epilepsy. Specific treatment should be judiciously employed where syphilitic origin is suspected. Trephining will be indicated in fracture and superficial neoplasms. Post-epileptic manias should be watched for as a guard against homicide.

URIC ACID: ITS PATHOLOGICAL AND THERAPEUTICAL RELATIONS GENERALLY CONSIDERED.

—Dr. Wm. A. Hillard, of Westerly, R. I., read a critical review under above title before the Washington County (R. I.) Medical Society, April 8, 1898 (published in full in the *Atlantic Medical Weekly*, May 21, 1898), from which we quote his views on the therapeutic measures:

Disorders due to an excess of uric acid in the blood and body may be treated in a rather imperfect way by the administration of drugs. If the disorder be due to an excess of acid circulating in the blood, we have two measures at our command. We can clear the blood by administering drugs which will increase the excretion of the acid, or we may drive the acid from the blood into the system as a temporary measure only. Thus drugs such as sodium salicylate, sodium phosphate, quinine, belladonna and salol will increase excretion, and drugs such as opium, calomel and other mercurials, acids and the iodides, which diminish the alkalinity of the blood, will cause the acid to be deposited in the system, and by lowering arterial tension will tend to improve the circulation throughout the body. The driving of the acid from the blood into the body tissues is often accompanied by prickling and sudden pains in the joints into which it is driven. Here it may be noted that after the administration of opium, whereby the blood is cleared temporarily of uric acid, there is a "rebound" so to speak, when the blood is again flooded and headache and depression result. This rebound can be prevented by the use of the salicylate after the opium, whereby the uric acid excretion is hastened. The alkalies will dissolve the acid out of the system by increasing the alkalinity of the blood. The salicylates are poor solvents of uric acid if the blood is highly alkaline and acidity of urine low—therefore the alkaline salts should not be combined with them. As a rule, acids aid and alkalies hinder the action of the salicylates. In the use of the salicylates I would sug-

gest the use of the strontium salt, which is highly recommended on account of its freedom from ill effects upon the stomach. The pain and temperature of a patient with rheumatism may be relieved by a salicylate which dissolves and eliminates the acid—but if the action of the salicylate is prevented the pain is increased.

Lithia is thrust upon us on every side as a solvent of uric acid, and such a solvent it surely is when outside of the body and in the laboratory. But lithia taken by mouth is not a solvent of uric acid, for, according to Haig, it “forms a nearly insoluble triple phosphate with phosphate of soda, or with the triple phosphate of ammonia and soda, salts generally present in animal fluids.

The methods of examination for, and quantitative estimation of, uric acid are, as a whole, complicated and unreliable. A new method, chemically the same as Haycraft's, has been proposed by Cook, of Ohio, and seems to be worthy of trial. The details of procedure may be found in the *Medical Record* of March 12, 1898, page 373.

BALSAM—OIL DRESSINGS FOR SURGICAL CASES.—

R Balsam of Peru, 5%..... M xxiv
Castor oil, 95%..... 3 i

Apply on absorbent gauze, which is then to be covered with rubber tissue and held in place by a bandage.—*New York Polyclinic*.

TREATMENT OF NEURASTHENIA.—Prof. J. K. Bauduy, in the *St. Louis Medical Review*, reports a number of cases, with exact clinical data and blood examinations, to show: “That chalybeates, more especially the *organic* salts of iron, constitute an essential indication in the successful treatment of some cases of neurasthenia, especially in the female, where functional menstrual derangements exist, is to my mind an indisputable fact. They produce conditions, oftentimes not attainable by the inorganic preparations for many reasons, which experience and reflection clearly demonstrate.”

The cases were treated at St. John's Hospital (St. Louis), and were under strict control. The liquid iron and manganese peptonate, known as Gude's pepto-mangan, was employed. Dr. Bauduy says: “That the ratio, or number of red blood corpuscles, and the percentage of hemoglobin were deficient in the normal standard of these cases, prior to the treatment, is incontestable, as shown by the microscope. That several of the cases investigated have shown marked improvement, even after one or two weeks' treatment, is moreover revealed in the same manner, and which for rapidity of effect is quite an exceptional, if not a startling therapeutic result, when compared with some of the prior and more established methods of treatment. That many of these cases presented unmistakable evidence of satisfactory improvement, from both a subjective and objective standpoint, was quite as notable as the permanent character of their general amelioration. * * * Before concluding, I wish particularly to call attention to the fact of the absence of digestive disturbances and necessary consequent interference in the assimilation. All other unpleasant complicating results were notable by their absence. Of course, we do not consider the remedy applicable to cases of lithemic neurasthenia, nor in any manner a specific in any variety of neurasthenia. In many cases the addition of arsenic and strychnia greatly increase the efficacy of the preparation. I must also take cognizance of the salient fact of the rapidity with which a large number of female neurasthenics, under our treatment, who have suffered with marked functional menstrual derangements, have attained a normal condition under the administration of this most elegant combination of iron and manganese.”

The report, which is of considerable length, was read before the St. Louis Medical Society, February 5th, 1898, and prompted confirmatory statements and discussion.

The American Therapist.

A MONTHLY RECORD OF MODERN THERAPEUTICS,

WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

VOL. VI.

NEW YORK, JUNE, 1898.

No. 12

Original Articles.

*CASE OF TETANUS TREATED WITH ANTITOXIN.**

By W. O. ROBERTS, M.D.,

Professor of Surgery and Clinical Surgery in the University
of Louisville, etc., Louisville, Ky.

In a paper read before the Louisville Clinical Society the author said that a case had recently come under his observation, in which tetanus antitoxin was employed. The amount administered was insufficient, so the remedy cannot be said to have had a fair trial. The patient was a white male, aged 48, by occupation carpenter. Seventeen days before admission to the Hospital, while at work in a barn, he crushed the index finger of his left hand with a hatchet. Sixteen days after the injury he noticed a soreness and stiffness about the jaws, and experienced slight difficulty in swallowing; the following day he had pain and stiffness in the muscles of the back of the neck and entire spinal region.

At time of admission (December 8th) and during the first twenty-four hours the pulse was 90 to 100, respiration 24 to 30 per minute, and temperature 99.6° F. There was a tonic spasm of the muscles of mastication, back of the neck, and of the spinal column. He was unable to open his mouth, and opisthotonus and the risus sardonicus were present. The surface of the body was covered with profuse perspiration. At irregular intervals, and when given medicine or food, he would have a clonic spasm of all the muscles, but particularly of the throat and

respiratory groups. This prevented swallowing and caused breathing to become hurried and shallow. He complained bitterly of pain at the anterior attachments of the diaphragm. He was given ten grains of chloral hydrate and thirty grains of potassium bromide every two hours; a purge was given with good effect, and a liberal supply of liquid food ordered. The local sore was thoroughly cleansed with bichloride of mercury solution, and carbolic acid dressings applied.

December 9th, pulse 92 to 102, respirations 34 to 40, temperature 102° F. Symptoms of the day before apparently ameliorated, but by evening were worse than ever. Commencing at two o'clock in the afternoon, he was given thirty cubic centimeters of antitoxic serum by twelve o'clock at night. The chloral and bromide were continued.

December 10th, pulse 100 to 128, respirations 40 to 56, temperature 104° F. Symptoms of preceding days intensified; spasm of the glottis commenced and persisted, at irregular intervals, until the end, each contraction lasting from one to twenty-five seconds. His pulse running high, chloral was discontinued, and bromide increased to forty-five grains every two hours. During the afternoon he was given thirty cubic centimeters of antitoxin; the administration of medicines or foods causing convulsions, each was preceded with an inhalation of two minims of amyl nitrite, but without appreciable effect.

December 11th, pulse 120 to 152, respirations 44 to 60, temperature 104½° F.

On December 12th the pulse reached 140, respirations 50 to 88. The temperature had risen to 103.8° F. At twelve o'clock the patient was moribund; a part

* Abstract of a paper published in *Medicine*, Vol. 4, No. 3; the discussion which follows was omitted.

of the time for the last two days he had been delirious, but at all times partook freely of liquid nourishment and passed urine and feces without trouble.

In a recent number of the *Annals of Surgery* there are two interesting articles on the subject of tetanus—one by Dennis, and the other, an editorial article, by Goodrich. Dennis claims that, according to statistics of Lambert, the death-rate from tetanus since the use of antitoxin has been very much diminished. Before the use of antitoxin the death-rate in acute tetanus was 80 per cent., and in chronic tetanus 40 per cent., with 60 per cent. as an average for all cases. Since antitoxin has been used the death-rate has been greatly reduced; in acute and chronic cases together, the death-rate has been cut to 30 per cent.; in acute cases it is 61 per cent.; and in chronic cases 5 per cent., that is, excluding the cases in which the patient died within twenty-four hours after the first dose of antitoxin, cases which died from intercurrent troubles, and those in which the administration of antitoxin was put off because of the mildness of the attack.

In the article by Goodrich there is a tabular list of 113 cases of tetanus treated by the older methods within the last ten years, and 113 cases of tetanus treated with antitoxin. The death-rate in those treated by the older methods amounted to sixty-three, and of those treated by antitoxin sixty-four died; the death-rate being greater under the use of antitoxin than without it.

According to Dennis, Welch believes that antitoxin is of little value in cases of short incubation—that is, under seven days. It will be seen from Goodrich's tables, however, that of thirty-two cases of a period of incubation of seven days and less there were eighteen recoveries. But the mortality is much less when the incubation is longer than seven days.

Dennis claims that twenty cubic centimeters antitoxin should be given three times a day to begin with, and then the

dose and the frequency of its administration regulated by the symptoms. The administration must be kept up for a long time, in fact until all symptoms of tetanus have entirely disappeared. He claims that antitoxin has no effect whatever upon the bacilli or upon the spores; that some of these may live in the tissues around the wound, and after the effect of the toxin has been destroyed by the antitoxin these spores may become developed into bacilli, and the symptoms return.

Lambert lays great stress upon the point of watching the patient carefully after he has been apparently cured, guarding him against sudden excitement and fright. Cases have occurred where patients were apparently well, and upon being suddenly startled, have died almost instantly.

GOODRICH'S TABLES.
CASES TREATED BY ANTITOXIN.

DAYS OF INCUBATION	CASES	CURED	DIED	PER CENT. CURED
Two	1	1	0	100
Three	2	2	0	100
Four	2	1	1	50
Five	7	4	3	59
Six	7	5	2	71
Seven	13	5	8	38
Eight	12	8	4	66
Nine	3	1	2	33
Ten	10	5	5	50
Eleven	6	4	2	66
Twelve	12	9	3	75
More than twelve..	26	21	5	81
Unknown	12	5	7	42
Total.....	113	71	42	63

CASES TREATED BY SEDATIVE AND ANTI-SPASMODIC DRUGS.

DAYS OF INCUBATION	CASES	CURED	DIED	PER CENT. CURED
Two	2	2	0	100
Three	5	2	3	40
Four	9	4	5	44
Five	9	4	5	44
Six	4	1	3	25
Seven	6	3	3	50
Eight	3	2	1	66
Nine	6	2	4	33
Ten	9	5	4	56
Eleven	4	3	1	75
Twelve	2	2	0	100
More than twelve..	27	21	6	77
Unknown	27	22	5	81
Total.....	113	73	40	64

In reference to the use of antitoxin as a preventive measure, Dennis says: "All surgeons agree that it would not be justifiable to immunize a patient on the vague supposition that tetanus might develop. The use of the antitoxin as a prophylactic measure is, consequently, limited to those cases where the wound has been inflicted in such a manner as to allow garden earth, plaster from walls, or manured soil, to come in contact with it; or where the traumatism has been caused by a rusty nail upon which the bacilli are discovered, or in a given locality where tetanus is prevalent, or where the wound is a lacerated one with entrance of foreign bodies into it."

The case reported is the second one of which the author had knowledge where antitoxin had been used in Louisville, and both patients died; but in neither case did the agent have a fair trial. From the long period of incubation in the case reported it was regarded as a rather favorable one.

REMARKS.

Dr. J. W. Irwin.—The report made by Dr. Roberts is not only interesting as a case of tetanus treated by the new remedy antitoxin, but it illustrates clearly how difficult it is to eradicate from a lacerated or contused wound the germs of that disease. Before the discovery of the bacillus of tetanus by Nicolaier, 97 per cent. of all punctured wounds in which tetanus occurred resulted in death. After his discovery, and attention being directed to the character of the bacillus, that is to say that the bacillus of tetanus was anaerobic (that it could not live when exposed to the air), surgeons directed their attention more particularly than before to laying open punctured wounds and washing them out thoroughly as early as possible after receipt of the injury, and in that way the death-rate was reduced to about eighty per cent., as Dr. Roberts has stated. The reports I have seen on the subject of tetanus treated by antitoxin have not impressed me very favorably concerning its

use. Some writers have reported cures, others have stated that they had seen no results, and the statistics mentioned by Dr. Roberts seem to bear out this idea.

I have seen some cases of tetanus, but nothing like the number surgeons generally see. The few cases I have seen, when the wound was kept thoroughly cleansed the patients appeared to do very well. One of those rare cases of tetanus came under my observation, the first one which had been reported for one-hundred years, as far as I could ascertain, on this side of the Allegheny Mountains. It was a case of puerperal tetanus. I saw it in January, 1892. The disease came on the eleventh day after childbirth. Dr. Wathen saw the case once or twice with me. It was a bad case, and I treated it according to general principles. The young woman's jaws became set, but fortunately I found she was minus a large tooth, and I took advantage of the aperture and fed her with liquids through that opening. I gave her large doses of chloral per rectum, with hypodermic injections of morphine to control the spasms, kept her free from noises, perfectly quiet, and by the first of May following she was entirely well.

That was the thirty-second case of puerperal tetanus reported throughout the world, according to the statistics of Garrigues, of New York, in the previous one-hundred years, which shows how rarely such cases occur.

The case would have been an admirable one for the use of antitoxin, as we had no wound that could be demonstrated, and because there was nothing in the confinement out of the ordinary, no evidence of a laceration, no indication of septicemia, and nothing to point to any wound except normal labor.

The subject of tetanus is a very interesting one to bring before this Society, and it will certainly put others to thinking along this line.

Dr. W. C. Dugan.—Dr. Roberts mentioned that his patient became delirious or unconscious before death. I would like

to ask the doctor in closing the discussion to tell us if he thinks the antitoxin had anything to do with the production of unconsciousness, since the rule is that these patients are conscious up to the last few minutes, in fact are so while dying. The late development of the disease was favorable, and it seemed to be a mild case, but my experience has been in two very mild cases met with in the last six months, that both died, so the prognosis even in such cases is most unfavorable..

I remember a case recently seen at my clinic at the Louisville Medical College which was so mild that we thought at first it was not a case of tetanus, as contrary to the rule there was no involvement of the muscles of mastication until very late, nor was there pain or stiffness about his neck, the rigidity was mostly confined to his back and the recti muscles of the abdomen. We put the man upon chloral and the bromides, but he stopped coming to the clinic after a few days, and we did not know for a time what had become of him. Finally he went to the City Hospital, having a marked case of chronic tetanus, where he went on and died, conscious to the last, as I am informed.

I recently saw a case of tetanus in consultation: A lady fell down a wine-cellar injuring her scalp; it was a dirty wound, but was cleansed and healed kindly. In eight or nine days she developed symptoms of tetanus, first in the muscles of mastication. When seen the next day in consultation with the family physician, we gave her large doses of bromide and chloral, and she seemed to be doing well under this treatment. The last time we saw her she could open her mouth slightly, and could be fed with a spoon very well; she was coughing considerably, but we were of the opinion that she would recover. The nurse told us, however, that she had a spasm, but was perfectly conscious, and we thought the condition might be due to the expulsion or throwing out of the bronchial mucus, which was very free, tenacious and hard to get

up. That night she was suddenly startled, jumped up in bed, and fell back dead. She had a spasm of the diaphragm, but the other muscles were found relaxed, and from what the nurse told us her death was one of the most painful to behold. She labored for breath—standing up, struggling, until overcome, asphyxiated—finally falling back dead. Her mouth was opened about one inch at the time. Death was caused by contraction of the diaphragm, and such had been the “spasms” reported by the nurse.

Dr. T. P. Satterwhite.—In this connection I recall the cases of two boys in one family who recently died of tetanus, the last one ten months ago. They died on the fourth day after symptoms of tetanus developed, under the usual treatment with chloral hydrate and chloroform administered to control the spasms.

Dr. I. N. Bloom.—I would like to hear something in relation to the equine theory of tetanus, the frequency with which it occurs in proximity to stables, etc; also something more about the different kinds of tetanus toxins that have been described by late writers.

Dr. W. O. Roberts.—With reference to the puerperal case mentioned by Doctor Irwin: It is pretty generally believed now that tetanus is essentially a traumatic disease, that it is *never* idiopathic. Gautier, as quoted by Senn, has collected seventy-four cases of puerperal tetanus, thirty-six following abortions, and thirty-eight following confinement; of these ten recovered, five after abortion and five after labor. Many cases of tetanus are reported as idiopathic, but it is believed there is a lesion somewhere by which the bacilli enter. Doctor Rose, in his book on tetanus, claims that many of these so-called cases of idiopathic tetanus arise from people eating apples that have fallen to the ground in orchards, or raw vegetables fresh from the garden with earth impregnated with tetanus bacilli adhering to them; if the germ does not come in contact with any abrasion about the

mouth, throat or esophagus, that it travels on down to the gastro-intestinal tract, and may get in its work in abrasions about the anus, or about the vagina, or it may enter the uterus itself and give rise to just such cases as the one referred to by Doctor Irwin, of puerperal tetanus. While this seems rather "far-fetched", it is not impossible for infections to occur in this way.

In regard to the bacillus itself: As Doctor Irwin has stated it is anaerobic, and its especial habitat is the superficial layers of the earth, about stables, etc., and this character of the bacillus is one of the reasons it is more apt to infect a deep punctured wound than an open wound. It is very easily destroyed; a five per cent. solution of carbolic acid, a 1 to 1000 solution of bichloride of mercury, a one per cent solution of nitrate of silver, or iodoform will destroy it.

The symptoms of the disease are now thought to be due to a substance named tetanin, to which Doctor Bloom has called attention. This was discovered by Brieger and Kitasato who claim that the symptoms of tetanus are due to the dissemination of this agent through the body; that at post mortem examination the bacilli and the spores were found chiefly around the immediate vicinity of the wound, that few were found in the blood, in the internal organs, or nerve centres.

In reference to the "equine" theory, also referred to by Doctor Bloom: Verneil was the one who claimed that these bacilli were found in greater abundance where cattle and horses were kept, about stables, farms, etc., and he also claimed that cases of tetanus occurring on seaboard were confined entirely to vessels that transported horses and cattle, and that it did not occur upon vessels on which these animals were not transported. From these observations chiefly came the "equine" theory of the origin of tetanus. But later comes the statement from a man by the name of Dantes who discovered the bacilli in the mud of New Hebrides Islands,

mud with which the natives poisoned their arrows, and it is a noteworthy fact that there have never been any horses on these Islands. That gave a black eye to the equine theory of the bacillus.

In reply to Doctor Dugan concerning the man becoming unconscious before death took place: My experience heretofore has been like his, that these patients seem to be perfectly conscious and perfectly rational up to the time of death. It is a question as to whether the delirium in the case reported was caused by the antitoxin. I have seen a great many cases of tetanus, both in my own practice and in the practice of others, and know of but four cases that have gotten well. One of these I saw with the late Doctor Cowling—a lady upon whom he had performed Mr. Allingham's operation for hemorrhoids. One was a boy who had a compound dislocation of the elbow joint. One in a man who was thrown from a train and had mashed his finger; and one in a young boy, a patient of Doctor C. W. Wilson, a nail wound of the foot. All of these cases were treated with a combination of chloral, bromide and morphine. None of them were given chloroform. All the other cases that have come under my observation have died.

Cases of Tetanus neonatorum have been reported recently treated with antitoxin, and have gotten well.

THALLIUM ACETATE IN NIGHT-SWEATS OF PHTHISIS.—Combemale, at a recent meeting of the Academy of Medicine (*Medical News*, April 2, 1898; *Univ. Med. Magazine*) spoke highly of acetate of thallium in the night-sweats of phthisis. He has had only one failure in the treatment of thirty patients. The remedy also exercises a beneficial effect upon chronic catarrh, due to bronchial dilatation, emphysema, etc. The daily dose is one to two grains, given in pills, about one hour before bed-time. It should never be given during more than four successive days.

THREE CASES OF DIABETES MELLITUS TREATED WITH BENZOSOL.*

By N. B. ASPINALL, M.D., Plymouth, Ind.

About the first of April, 1897, Dr. Martin Vaughn, of Plymouth, brought to my office a sample of urine for analysis. It was found to be acid in reaction, specific gravity 1.040, with a large proportion of sugar. Dr. Vaughn gave me the following history of the case:

J. H., male, æt. 48 years; had been under the care of another physician for two years prior to this time. An examination of the urine was supposed to have been made, but upon inquiry it was found that the bottle containing about 8 ounces, had been placed upon a shelf and allowed to stand for 24 hours; at the expiration of this time, no Havemeyer sugar refinery being noticed as a precipitate, the attending physician concluded that the urine was normal, and informed the patient that he was suffering from nothing more than a slight attack of diabetes insipidus and that he would have him well in a very short time. As was to be expected, the patient, instead of improving, grew steadily worse and eventually passed into the hands of Dr. Vaughn, who brought the case to my notice as stated.

Upon personal examination I found him suffering from all of the classical symptoms of diabetes mellitus: *viz.*: polyuria with very frequent urination; great thirst, many quarts of water being consumed daily; progressive emaciation and loss of strength; decided dryness of skin with a generalized pruritus, etc., etc. At my suggestion the patient was placed upon a treatment of opium, ergotin, belladonna, gentian, etc., with strict dietetic and hygienic restrictions. Upon this treatment the patient gained a little in strength, the specific gravity of the urine fell to 1.032, with a corresponding decrease in the amount of sugar excreted.

About Dec. 1st Dr. Vaughn moved from

* Read before the Marshall County Physicians' Association, May 3d, 1898.

Plymouth to Winnemac, and the patient came to me for treatment. At this time my attention was called to the literature on benzosol (benzoate of guaiacol) as a remedy for the control of sugar elaboration in diabetes, and as I was favorably impressed by the various clinical reports I decided to give the drug a trial in this case. I prescribed benzosol in 5 grain doses every four hours while awake; also a bitter tonic before each meal. Under this treatment the patient rapidly improved in general health, and increased steadily in weight. The urine decreased in quantity, the specific gravity gradually receded to 1.020, and the sugar decreased progressively until it entirely disappeared. An examination of the urine at the present time shows a secretion normal in amount, specific gravity 1.020, and not even a trace of sugar. The patient considers himself entirely well, in which opinion I am inclined to concur.

Case II.—Mr. E. B. Similar in all respects to case above related except that the benzosol treatment was commenced as soon as the patient came under my care. The results were equally prompt and satisfactory, and to-day the patient passes a normal amount of urine of a specific gravity of 1.020.

Case III.—Mrs. G., widow, æt. 50 years. Has now been under my treatment for two months for the same disease. Benzosol, 5 grains, 4 times a day, is bringing about rapid improvement, and I hope and expect to soon discharge her in the same good condition as are cases I and II.

It is, of course, needless for me, Gentlemen, to advert to the necessity of directing your diabetic patients to avoid all carbo-hydrate food-stuffs and also to carry out to the letter your hygienic instructions. In addition to this I would certainly recommend a trial of benzosol in every case of this disease, especially in view of the results obtained in the cases of the three patients mentioned, the particulars of which you know and with all of whom you are personally acquainted.

SOME PRACTICAL POINTS IN THERAPEUTICS.*

By DAVID INGLIS, M.D., Detroit, Mich.,

Professor of Mental and Nervous Diseases in the Detroit
College of Medicine.

I venture to submit the following therapeutic suggestions, not because they are novel but because they represent some of the facts which experience has shown to be of everyday usefulness. It is by the interchange of such experiences that we can materially aid each other.

The first suggestion is one for which I am indebted to a fragment of an old medical journal—the use of quinine in croup. While there have been marked changes in our views of the pathology of membranous croup since the article was written, the fact remains that many cases of so-called spasmodic croup occur. A child becomes a little hoarse toward evening but is apparently as well as usual and goes to sleep. Before midnight the parents are startled by a croupy cough. Either with the summoning of the doctor or without, the child is given emetics, thoroughly poulticed, et cetera, and, after a bad night, morning brings relief and the child, hoarse but not as badly worn out as the parents, is ready for play. The second night is a repetition of the first, and if things run on to the third night a tracheotomy may result. There is no pharyngeal exudate and no fever at first. It seems clear that what starts first as an irritation of the mucous membrane, causing reflex spasm of the laryngeal muscles, develops into an inflammation with edema, and upon this there may come, as a last result of inflammation increasing in intensity, a fibrinous exudate. I leave to the bacteriologist the quarrel as to whether the bacteria infect the exudate or cause it. Be that as it may it is a matter of much importance to quell the irritation early.

Whenever I am called, to find a child with a husky voice or cry and a rough croupy cough, experience has demonstrated that by giving quinine in two grain doses every hour or two hours until six or eight grains are given, the trouble is abated. I go to bed with the serene consciousness that I will not be routed up at 2 A. M. to spend the dismal time between that and daybreak. And I feel pretty certain that by giving two grains at six-hour intervals the next day, the second night will be quiet and the tracheotomy will never be discussed. In very young children I find the quinine can be given by inunction with lanolin.

This brings to mind the next therapeutic suggestion.

A certain stout woman had great cancerous infiltration of the liver with great pain. Nothing availed but frequent hypodermics of morphia. I put up two grains of morphia in an ounce of lanolin with orders, to the daughter, to rub this on, to see if it would relieve the patient. When I called a few hours later expecting to be obliged to give another hypodermic, I found my patient profoundly narcotized—she slept eighteen hours before she waked. The daughter had rubbed on the entire contents of the box.

A short time after this a patient with a severe gastro-duodenitis, with icterus, showed fever of distinctly intermittent type. As her stomach rejected everything and a diarrhea made it impossible to use suppositories, I sent up from the nearest drug store twenty grains of quinine in one ounce of lanoline, to be rubbed on the abdomen. When I called next day my patient greeted me thus: "Doctor, of course I know I am not taking quinine, but if I did not I should think I had been, for my ears ring so."

These two cases demonstrate that alkaloids can be carried into the system by lanoline inunction. The old mercurial inunction long ago demonstrated the principle but the application of the principle is an extensive one. Morphia and lanoline

* Read in the Wayne County (Detroit) Medical Society; reprinted from *The Physician and Surgeon*, October, 1877.

or cocaine and lanoline from very useful local anodynes.

In this connection comes a third suggestion.

While the modern treatment for bad burns or scalds has to a large extent displaced the old carron oil there are still cases in which it seems necessary to resort to it. Linseed oil *dries*, otherwise painted houses would remain greasy. Castor oil never dries. A mixture of equal parts of castor oil and limewater forms a substitute for the old carron oil which is entirely free from the objection that the dressing adhere to the epidermis. It forms a white emulsion and the oil does not have a purgative effect as one might expect.

My next therapeutic suggestion is in reference to the treatment of epilepsy by acetanilid

In a paper published three years ago I protested against the indiscriminate use of the bromides in epilepsy for I believe that in many instances the bromides are far more to blame for the mental impairment, which finally results than the epilepsy itself. Indeed a shrewd lawyer, who once consulted me for epilepsy, put it in concentrated form when he said: "Doctor, I can stop these fits by the steady use of bromides, but I prefer to have a fit once in three months rather than to be a fool all the time."

The coal-tar preparations, of which I take acetanilid as a type, can bring quite as satisfactory results as the bromides. I could add to cases of cure reported in the paper mentioned, but my object in alluding to the subject again to-night is rather to bring out a conclusion from a somewhat extensive experience. It is this:

The best results from the acetanilid treatment are to be found when it is given to patients who have already been saturated with bromides, and in whom the bromides have lost their effect or are producing toxic effects. This, to me, unexpected result simply conforms to the facts involved in Flechsig's method of treat-

ment. Flechsig narcotizes his patient with opium and then changes to bromides. Under the acetanilid, patients who have been growing mentally dull, quickly recover mental alertness. The acetanilid certainly is devoid of that very unhappy effect of the bromides.

This brings me to my next suggestion, the uses of sulphonal and trional

These drugs seem to have identical physiological effects, but I now use trional to the exclusion of sulphonal, simply because it is more soluble. I feel certain that sulphonal sometimes fails of solution entirely, in the stomach. Using trional then, there are some suggestions about it. It is an admirable substitute for the bromides in those conditions which we call "nervous." Instead of using ten to fifteen grains of trional for a night dose I now almost always give three, four or possibly five grains at intervals through the day. The result is this: The patient is never stupified, as he is liable to be by the full night dose, but during the day he feels calmer, more composed, with much less of that wretched restlessness and irritability which makes the day miserable and the night dreaded. He goes to bed in a comfortable frame of mind, and upon the whole sleeps quite as well as he would upon a large nightcap dose. And he feels that the sleep is a "natural sleep." The moral effect upon these patients is great. A patient who knows that he has only gotten sleep by the use of narcotics is vastly encouraged to find that he goes to sleep naturally after a tolerably calm day. And encouragement to these patients is an exceedingly valuable medicine.

The plan of holding a patient's nerve steady all day instead of letting them get more and more wrought up as the fatigue and worry of the day goes on, is founded on reason, and the difficulty of quieting down for the night, a patient who has been growing more and more irritable all day is very great. Nothing short of a large dose will do.

The same principle is illustrated in the

management of a severe migraine or a severe dysmenorrhea. Once allow the pain, in either case, to get well started and nothing but large doses of analgesics avail; but begin the use of the anodyne *before* the pain has continued any length of time and a small dose will prevent the pain increasing. It is therefore upon the same principle that I advocate the use of small diurnal doses of trional.

While upon this subject of trional let me call attention to its value in chorea. Andrews, of Chicago, I believe, first published the effect of sulphonal in quieting the reflex muscular twitching which occasionally complicates a fracture of the femur. It was this suggestion which led me to try it in chorea. The results are certainly very satisfactory. Here again it is best given in divided doses during the day. Again, trional is here preferable to sulphonal.

These suggestions are, I know, purely empirical, and I crave your indulgence for the disjointed nature of this paper. My only hope is that it may stimulate discussion and exchange of other personal experiences.

INFILTRATION ANESTHESIA.*

By WALTER W. BRAND, M.D., Toledo, Ohio.

After examining the statistics from year to year, the seriousness of general anesthesia is becoming more apparent and the wish greater to shrink the high mortality rate, and, when it is possible, to replace general anesthesia by a practical method of local anesthesia. To Schleich of Berlin belongs the honor of having been the first to devise a method which is not only safe, but also very practical, because of its wide range of usefulness and its being unattended by any of the accidents which sometimes accompany general anesthesia.

The many dangers connected with general anesthesia have led some mem-

bers of the medical profession to devise some method of local anesthesia that will answer the purpose for many of the minor operations of surgery, of which so many are seen in office practice. Among the various methods which have been devised and found wanting are: compression of the efferent nerves, the application of cold in the form of ice, or one of the many ethers and the chlorid of ethyl. More satisfactory than any of these has been the injection of narcotic substances into the tissues or painting them upon the mucous surfaces. These substances produce anesthesia because they are cell poisons and are always attended with more or less danger. When using these injections we always have to wait for substances to diffuse before anesthetizing, thereby enlarging the field of operation, but during this stage of diffusion there is always an intense burning pain. Cocain and eucain have been used more extensively for this purpose than any other narcotics. After Liebreich had demonstrated the fact that most all substances give rise to pain upon injection before anesthesia took place, Schleich continued the experiments with various solutions from time to time. Instead of using subcutaneous injections he used intracutaneous injections. He demonstrated that a 1-50 per cent. solution of cocain would produce anesthesia without a preceding hyperesthesia, weaker solutions producing pain before anesthesia. After using these very weak solutions of cocain and finding that they produce anesthesia, he tried plain distilled water. The wheal produced by the injection first gave rise to intense burning pain, and later became insensible to needle pricks. Upon continuing his experiments he found that the physiologic 3-5 per cent. solution of sodium chlorid gave the opposite result. There was no pain after injection, nor was there anesthesia. Finally he used a solution of medium strength of the 3-5 per cent. sodium chlorid and pure distilled water, and found there was no pain after injection.

* Read before the Northern Tri-State Medical Association at Toledo, January 23, 1898.—From the *Cleveland Journal of Medicine*, May, 1898.

tion, but it did produce anesthesia. Unlike the anesthesia of cocain, the anesthetized area was limited to the zone of edema produced by the infiltration of the tissue with the injected fluid. Insensibility to pain is produced immediately and you do not have to wait, as is necessary when using cocain, carbolic acid or bromide of potassium. The result of immediate insensibility to pain is explained by the ischemia due to compression of the vessels and nerves by the infiltrated tissue and by the fluid being of a lower temperature than that of the body. If the fluid is about 40° F., the anesthesia is more marked and extends over a longer time. In preparing the solutions for this method of anesthesia sodium chlorid is made the vehicle. If the tissues are inflamed and hyperesthetic, add from 1-100 to 1-50 per cent. cocain. To the solution of sodium chlorid and cocain add from 1-200 to 1-40 per cent. morphin hydrochlorate, which will reduce the pain after operation to less than what it is after chloroform. The solution I have used and found most practical is what he calls No. 2, or medium strength. It contains:

Cocain hydrochlorate.....	0.1
Morphin hydrochlorate.....	0.025
Sodium chloride, sterilized...	0.2
Distilled water.....	100.0

Add to this one drop of a solution of formalin, 40 per cent. Of this solution, from 50 to 75 syringesful can be used without any danger attending its use, and the anesthesia produced by this method lasts from 25 to 30 minutes.

ON INFILTRATION ANESTHESIA.—Dr. C. L. Schleich, of Berlin, whose method has received much notice in the American medical press, contributes a very valuable original paper under above title to *Pediatrics*, April 15, 1898. We quote the following concluding paragraphs, to record the author's formulas in this journal, and particularly on account of the graceful tribute to his American colleagues:

As to the utility of my method, there can no longer exist any doubt, since such

notable authorities as Miculicz, von Burns, Prof. Bier, E. von Bergmann and von Hecker, have written in favor of it in Germany. Personally I am convinced, however, that according to the individuality of the operator, some will be more inclined to adopt my methods than others. Even though we may not reach a final conclusion as to the limits of its application, the time will soon come when no one will be able to operate by any other method. Everyone who begins his studies with simple cases and acquires a certain technique with them before he undertakes more complicated operations, will soon discover that this method is a most decided step in advance in the art of operating without pain or danger.

This is, then, essentially the basis of my method. It is quite evident that this necessitates an entire change from the hitherto employed method of producing anesthesia which was founded by M. Réclus (Paris), its honored master, for the reason that it demands a different formula for each operation. In this change of technique, which naturally must be carefully acquired, lies one of the principal obstacles to the rapid adoption of my method. I have gladly availed myself of the privilege of seeing for the first time one of my articles published in an American journal, and to most gratefully acknowledge that it was by American colleagues, especially Drs. Würdemann and Parvin, that my method was first submitted to an exact and practical test. I desire to take this opportunity of thanking those gentlemen most sincerely. It was in consequence of their American publications that my method was in extensive use in that country before it had attracted any notice in my native land. To my American colleagues I am indebted even for the favor which it won later in Germany from many prominent medical authorities. Their service to the advance of science is, for that reason, as great as my own.

In spite of all the opposition of my

German colleagues, I persevered, and transformed the technique of local anesthesia.

The following are my three solutions for infiltration anesthesia:

No 1.

Cocaine hydrochlorate	0.2	3.09 grs.
Morphine	0.025	0.386 "
Sodium chlor. steriliz'd	0.2	3.09 "
Distilled water <i>ad</i>	100.0	3.2 oz.

No. 2.

Cocaine hydrochlorate	0.1	1.55 grs.
Morphine	0.025	0.386 "
Sodium chlor. steriliz'd	0.2	3.09 "
Distilled water <i>ad</i>	100.0	3.2 oz.

No. 3.

Cocaine hydrochlorate	0.01	0.155 grs.
Morphine	0.005	0.072 "
Sodium chlor. steriliz'd	0.2	3.09 "
Distilled water <i>ad</i>	100.0	3.2 oz.

THE THERAPEUTIC VALUE OF FERRATIN.*

By Dr. RICHARD DEUTSCH,

Assistent der I. med. Abtheilung im k. k. Krankenhause
"Rudolf-Stiftung."

The number of available iron preparations is so large, that some special characteristic is requisite to determine a choice between the many, especially to fit the remedy to any particular indicated case. The question of greater solubility, and of the more or less palatability of a preparation, so prominent in the discussion of the older mineral preparations, is now overshadowed by the physiological dignity of the newer remedies, and the important points now are, the percentage of iron and the degree of absorbability. Experience has shown (particularly in reports of Bunge¹ and Kobert,²) that the greater part of the iron administered in the form of iron salts passes through the intestinal canal as unutilized ballast; hence the effort was natural to find an iron-compound which would actually be taken up by the mucous membranes of the gastrointestinal canal.

This endeavor led to the introduction of many organic compounds, in which the iron is bound to a peptone or albumen component, the assumption being that a product of this kind, an iron albuminate, would represent the form in which iron occurs in the normal organism. Notably Kobert³) made the effort to produce an iron compound of this description from blood, naming his product *haemol*. Many other products of blood and hematin have also been recommended, but some of them have been so little used that estimates of their value are as yet impossible. For none of the preparations of this class has proof been adduced that the compound is actually identical with the substance utilized in the organism, excepting only Ferratin, of which Schmiedeberg⁴) and Marfori⁵) have positively proved the desired character, so that no doubt can exist that this compound represents a natural modification of the organism.

Ferratin, synthetically prepared and as used therapeutically, has been proved by Schmiedeberg to be identical in every characteristic with the iron-compound as it occurs in the liver, so that we actually possess in this product the long sought-for iron agent for all indicated cases.

According to Schmiedeberg's experiments the combination with iron in Ferratin is entirely different from that in ordinary iron-albuminates, but approximates most nearly the absorbable iron-albumens of food. The tests of Schmiedeberg and of Marfori, De Filippi⁶) and Vay, show—besides its absorbability—that it also possesses a very important physiological property, an important factor in the human economy, since the Ferratin percentage in the liver fluctuates according to the condition of nourishment of the individual, so that in its labilitat it is com-

³) Kobert Deutsche med. Wochenschrift, 1894.

⁴) Schmiedeberg, Archiv für exper. Path. und Pharmak., XXXIII, 1893.

⁵) Marfori, Archiv f. exper. Path. u. Pharmak., XXIX, 1891.

⁶) De Filippi, XIIIth Congress für innere Medizin, 1895.

* Translation of original in *Wiener Medizinische Blätter*, Vol. XVIII, No. 43.

¹) Bunge, Zeitschrift für physiolog. Chemie, 1885.

²) Kobert, Archiv für exper. Path. u. Pharmak., 1883, XVI.

parable to the glycogen in the liver-cells, serving in the same manner, but in a different direction, as a reserve substance. Its high percentage of iron, 7 per cent., added to its assimilability, prompted Schmiedeberg to introduce Ferratin as a therapeutic iron- tonic, after Marfori had also proved its extreme absorbability.

Clinical reports have not been numerous, but those published have been exceedingly favorable, for instance those by Bauholzer,⁷⁾ Jaquet and Kündig,⁸⁾ and the statement of Litten,⁹⁾ which agree in stating that Ferratin not only replaces all other iron-compounds, but excels all in promptness of results.

My own tests, covering a number of cases of chlorosis and anemia, have demonstrated that ordinary chlorosis will yield to Ferratin, combined with rest and dietetic measures, as certainly as to any other iron preparation; in all cases a rapid increase of the red blood-corpuscles and of hemoglobin was noted, as also increased body-weight. The effect of Ferratin was especially noticeable in cases in which other iron preparations owing to stomach affection (ulc. ventriculi) caused pain or proved ineffectual. Two cases of this kind may here be cited:

K. Sch., 29 years, servant-girl; states that since last December she has suffered from gastric pains and frequent vomiting; occasionally the skin assumed a yellow color (icterus); the pains are very severe, especially after eating. Menses scant and irregular. Body poorly nourished; skin and mucous membranes pale. Internal organs normal; the stomach region acutely sensitive to the touch.

January 5th: red blood corpuscles, 3,600,000; hemoglobin (Fleischl), 35; body weight, 53½ kilogramm (117 lbs.). Therapy: ordered 0.5 gm. (7½ grains) Ferratin three times daily, which was well-borne.

January 14th: red blood corpuscles, 3,800,000; hemoglobin 40; sudden thrombosis of the Vena crin. destr.

Jan. 20th: red corpuscles, 3,700,000; hemoglobin, 35.

Jan. 30th: red corpuscles, 3,800,000; hemoglobin, 40.

Feb. 8th: red corpuscles, 3,950,000; hemoglobin, 50.

Feb. 16th: red corpuscles, 4,280,000; hemoglobin, 60; body weight, 56 kilogramm (123 lbs.).

Discontinued Ferratin; swelling of right extreme only very slight; appetite very good, and no gastric disturbance or pain of any kind.

March 5th: red corpuscles, 4,300,000; hemoglobin, 60; body weight, 57 kilogramm.

It was of special note in this case that Ferratin was so well accepted despite the existing gastric affection, and the exceptionally rapid increase of weight was symptomatically of more moment than even the improvement in the blood condition. We may, therefore, also confirm the statement of Schmiedeberg, that Ferratin is primarily a food, as did Jaquet and Kündig on the basis of their clinical experience.

The second case was a middle aged person, prone to relapse and repeatedly treated with iron preparations.

F., 39 years; general debility with dyspnoea and heart palpitation; exhibited a typical chlorotic blood condition, loud humming in the veins and anemic murmurs over the heart, and intense gastric disturbances, demonstrated by stomach pains, total loss of appetite and constipation.

February 10th: red blood corpuscles, 3,400,000; hemoglobin, 15; body weight, 56 kilogramm (123 pounds); ordered 0.5 gm. (7½ grains) Ferratin three times daily.

Feb. 20th: red corpuscles, 3,750,000; hemoglobin, 20.

March 1st: red corpuscles, 3,900,000; hemoglobin, 30.

March 12th: red corpuscles, 3,920,000; hemoglobin, 40; body weight, 58 kilogramm.

All subjective symptoms disappeared. Appetite good; gastric functions the same.

In this case the progressive improvement under Ferratin, compared to the other unsuccessful iron preparations, may be ascribed to the fact that the Ferratin proved absorbable despite the gastro-in-

⁷⁾ Bauholzer, Centralbl. f. klin. Med., 1894.

⁸⁾ Jaquet and Kündig, Correspondenzblatt für Schweizer Aerzte, 1894.

⁹⁾ Litten, Handbuch der speciellen Therapie; Penzoldt & Stintzing; chapter on Chlorosis.

testinal derangement, while the iron salts, always absorbed only to a limited extent, were thereby reduced to a minimum of therapeutic effect.

In other diseases of the hæmatopoietic system, Ferratin was tried in progressive pernicious anemia, with the same result as from other iron preparations, viz., negative. While in one instance Ferratin induced improvement, it was no more pronounced or permanent than from other agents.

A woman, 48 years old, a frequent visitor at our dispensary during the previous two years, exhibiting a typical anemic blood condition, dismissed greatly improved after several month's iron treatment at the institution, only to return in her original condition a few months later.

Ferratin was tried in this case, but with no better success than from other iron preparations.

Of cases of secondary anemia the following may be cited.

Sch. M., 25 years, received in an unconscious condition on January 23d. The patient appears remarkably pale when received, opens her eyes listlessly only after very loud calling, does not recognize her relatives, passes involuntarily, responds only to intense irritations with deprecatory motions. This condition lasts unchanged for four days. Patient is then able to report that she had a severe attack of hæmatemesis on January 22d. Such attacks have occurred every two or three years since her 16th year; she has not suffered from gastric pains. Menstruated since her 15th year, always scant, but regularly.

Present condition: Patient of robust build, well nourished. The visible mucous membranes and the skin remarkably pale. Intense humming sound over the jugular vein. Lungs normal. Over the entire heart region diffuse systolic percussion sounds; over all ostium loud systolic murmurs. Gastric region not sensitive to pressure. Liver and spleen not enlarged. Urine very light, no albumen and no urobilin; evacuations tarry.

Blood condition: Hemoglobin (Fleischl), 10! Red blood corpuscles 920,000. In the original preparation relative increase of the white corpuscles. Pronounced poikilocytosis, the red corpuscles pale, with no tendency to nummular formation.

In the stained preparation: Pronounced poikilocytosis, micro- and macrocytes, normoblasts and megaloblasts. Diagnosis: Secondary anemia, gravis post hæmatem. ex ulc. ventr. Therapy: 0.5 gm. (7½ grains) Ferratin three times daily; milk diet. The result:

Jan. 24th: red corpuscles, 920,000; hemoglobin, 10.

Feb. 6th: red corpuscles, 1,820,000; hemoglobin, 20.

Feb. 15th: red corpuscles, 2,170,000; hemoglobin, 25.

Feb. 22d: red corpuscles, 2,790,000; hemoglobin, 30.

March 2d: red corpuscles, 2,900,000; hemoglobin, 30 to 35.

March 10th: red corpuscles, 3,200,000; hemoglobin, 35.

March 18th: red corpuscles, 3,250,000; hemoglobin, 35.

At this time patient, feeling perfectly well, left our institution, so that unfortunately a continued observation of the blood was prevented. In a preparation made immediately before departure of the patient neither poikilocytes nor blasts could be found.

The general condition and the blood-exhibit of this case show that it was a most severe post-traumatic anemia with intense stimulus to the bone-marrow; in viewing the rapid restitution the part played by Ferratin deserves consideration. The exceedingly rapid increase, sometimes by leaps, of the red blood corpuscles, accompanied by the gradual rise of the hemoglobin, is a normal feature of blood-regeneration; but it would be an error to give Ferratin credit only for the increase of the hemoglobin, as the red corpuscle increase was evidently promoted largely by the Ferratin.

If Schmiedeberg's statement, that Ferratin is absorbed in unchanged form and stored in the liver as reserve-iron for blood-formation, is actually true, then this case—as antithesis to the experiments of Marfori, by which the liver of a dog was entirely emptied of Ferratin through repeated bleeding—adds to the proof.

If we conclude from the foregoing report, that Ferratin is at least the equal of other iron preparations, this conclusion certainly cannot appear unfounded, especially if it be considered that Ferratin is the first iron-compound of the physiological function and fate in the organism, thanks to the experiments of Schmiedeberg and Marfori, we have positive data.

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Subscription Price, - - \$1.00 per annum.

PUBLICATION OFFICE, 73 TO 79 FULTON ST., NEW YORK.

Address all communications to

THE AMERICAN THERAPIST,

P. O. Box 1170.

New York City.

Vol. VI.

JUNE, 1898.

No. 12.

Editorial.

DISEASE AS AN ENTITY.

One of the first lectures that we heard on the subject of therapeutics, was largely devoted to combatting the conception that disease is an entity. At frequent intervals, the same thought is brought prominently to the attention of the profession, by various writers on the most diverse topics. It has been said apologetically that bacteriology owed its origin to the unworthy seeking after a tangible cause, actuated by the entity-conception of disease, and that the present popular acceptance of bacteriologic principles is due to the same unworthy reason. It is said that the mentally immature require some fetich with which they can identify a disease-name, and against which they can direct their attacks. Solemn warnings are uttered that the man who regards disease as an entity is dangerously near the mental state of the old demonologists, and that he must guard against this belief by continually reminding himself of the non-material, non-personal, complex nature of disease. Quite recently, an editor of the *American Medico-Surgical Bulletin* has voiced the criticism, that "If a man of ordinary intelligence but wholly unfamiliar with medical matters, should listen to a group of doctors while they talked about a simple case of measles and how they treated it, he would go away bearing the

impression that they all held to such a belief"—that is that disease is "a particular thing that they drive out of the body of the patient."

One taking the practical view of medicine implied in the name THERAPIST can scarcely comprehend this antagonism to the use of the word entity in regard to disease. The physician may be coldly scientific as to pathology and judicial in studying diagnosis and prognosis; but in therapeutics he is like a soldier, either flushed with the enthusiasm of fighting or already anticipating the discouragement of defeat. Even if he disbelieves utterly in the concept of disease as an entity, we can scarcely imagine him as not regretting that he does not have an actual enemy against which to contend.

In our opinion, the objections to considering disease—at least many forms of disease—as entities, have been exaggerated, while the word has been used in a too limited sense. This late Latin word means essentially something real or being, but not necessarily a concrete ponderable object, nor a personality. In a purely rhetoric sense we often personify both disease and organism, or disease and drug, and this tendency has crystallized in such technicalities as alexine and phagocyte. But, may we not retain the word and concept *entity*, after fully admitting both the non-material and the non-spiritual nature of disease? Is not a force as truly an entity as the substance upon which it acts? We speak of a material thing as ponderable, and use the word entity to apply to it very largely on account of its ponderability. But is not gravity, to which ponderability is due, just as real as the object to which it gives a sense of reality? Such a disease as measles, we believe, can only rightly be conceived by thinking of it as an entity, that is, as a force which has certain definite manifestations. This force is undoubtedly bred in a specific micro-organism, but the germ is not the disease-entity; the germ produces the latter, very much

as a battery produces electricity. There is, to our mind, something very tangible—if we pass over the literal derivation of the word—about a force which requires a definite period of accumulation before it begins to manifest its effect on the system, which selects certain mucous membranes of the body and produces catarrh, which after a very definite period marks the skin with a rash that is even peculiar in shape. This tangibility is more impressive when we pause to consider that other infectious diseases show as well-marked and as inexplicable preference of location, time of development, etc.

If an infectious disease is not an entity, neither are most medicines. Iron, which takes its place as a normal constituent of the body may be so considered, but the majority of drugs which act merely by exercising some selective but absolutely unknown force on the cells of the body are as recondite as disease forces. When we reflect on the close clinical analogy that may be drawn between the poison of scarlet fever and atropine, or between that of tetanus and strychnine, when we further reflect that both disease symptoms and toxic symptoms are due to the activity of secretions of vegetable cells, it is obvious that pathology and therapeutics stand on the same ground, so far as dealing with entities is concerned.

We hold that it is correct to speak of driving a disease from the body, at least if we deal with an infectious or a definitely inflammatory disease or one due to some plain defect of chemic function. If a patient suffers from the ingestion of an ordinary poison, we do not stop the quibble over the fact that it is not the poison, but the way in which it affects the cells that constitutes the trouble; we get rid of the offending substance or aid the system to neutralize its effects, we are directing our efforts against something that we can detect in the excretions and which we think of as an entity. In the case of gout, which is a disease of perverted chemistry, not of bacterial origin,

the poison against which we strive is quite as positive, though, perhaps, not so simple as lead, which indirectly produces the same condition in certain chronic cases. It is not always, in fact not often, possible to drive out a disease by eliminative treatment alone. One of the best methods is that upon which the United States essayed to drive the Spanish army from Cuba, by lending as active and as varied support to the victims of invasion—in medical practice, the cells of the body—as may be needed.

In one respect, a tendency to make disease an entity deserves the most hearty condemnation. We allude to those comparatively rare, sometimes unique, cases in which a number of pathologic processes stand in obvious relation to one another, but which are not due to any general force which is liable to cause a frequent repetition of such a combination of symptoms. The attempt to manufacture diseases or "symptom complexes" out of such occurrences, and to label them with a proper name, or a Latin or Greek description, is to be deprecated. Such cases should be reported and analyzed on account of their intrinsic interest, not with the ulterior object of making the reporter famous as the discoverer of a new disease.

From the standpoint of the practical THERAPIST, any disease which occurs so regularly as to produce definite pathologic changes and recognizable symptoms, is an entity, a force acting on the cells of the organism. Usually this force is the toxicity of an organic poison, and, very frequently, it is produced by a definite parasite, sometimes animal, more often vegetable.

END OF VOLUME VI.—The AMERICAN THERAPIST was established six years ago, in July, 1892. The six volumes, completed with this issue, constitute a fairly complete record of contemporary progress in scientific therapy. Not aggressively brilliant; but conservatively progressive.

We are gratified to know that we have a long list of devoted subscribers, many from the first issue, and we take this opportunity to return our thanks for their steadfast support, and citing at the same time a continuance of such favor.

Current Literature.

CONSTIPATION IN CHILDREN (reports *Phila. Polyclinic*) is treated in the following manner by Dr. J. Madison Taylor: The diet is carefully regulated, and abdominal massage is employed. The mother is taught to anoint her hand with sweet oil or vaseline and to slowly and carefully knead the abdominal walls, grasping the superficial structures and rubbing them upon the underlying ones, following respectively the course of the ascending, transverse and descending colon, and ending with a circular movement of the hand around the umbilicus. With an occasional dose of sweet oil or a rectal injection of water to which salt has been added, this method rarely fails to result favorably.

WATER IN THE TREATMENT OF GASTRO-INTESTINAL DISORDERS. — Lichty (*Medical News*, April 16, 1898; *Univ. Med. Magazine*) shows by experiments upon himself and others that when ten to a dozen tumblerfuls of water are taken in twenty-four hours, there is a decided and constant effect upon the activity of the eliminatory organs. In cases of chronic gastritis lavage or drinking of water has the happiest effect. Where there is much dilatation of the stomach water may be given in small doses often repeated, also in hyperchlorhydria.

In chronic constipation the condition is frequently better relieved by the ingestion of large draughts of water than by any other means. In the treatment of intestinal autointoxication water, taken in large quantities, is of value, especially in causing increased elimination.

IS DIGITALIS IN TABLET FORM INACTIVE?—Actuated by the report of Dr. Daland to the Philadelphia Medical Society that tincture of digitalis practically became inert when made into tablets, Dr. Houghton (quotes the *Bulletin of Pharmacy* from *Therapeutic Gazette*) instituted a careful

and elaborate series of physiological experiments to determine the relative value of digitalis in fluid and tablet forms. The material employed for the experiments was as follows: New tablets made from old tincture, from old fluid extract, and from fresh fluid extract; two-year-old tablets; and samples of tinctures and fluid extracts taken from the original lots from which the tablets were made. All these substances were made into solutions of equal dilution, and the minimum fatal dose of each was then determined for frogs of the same kind and weight. Without going into the elaborate detail of the findings we quote the author's final statement: "I believe we are fully justified in drawing the following general conclusion from the above series of experiments: Active fluid preparations of digitalis do not lose in activity by being manufactured into tablets, nor do the tablets become less active by keeping than do the other preparations of digitalis."

DIGITALIN VERUM. — Dr. L. D. Kastenbine, Professor of Chemistry, Toxicology, etc., at the Louisville Medical College and the College of Pharmacy, writes to the *Louisville Medical Monthly*, April, 1898, that he has been devoting a great deal of attention lately to alkaloids and glucosides, and thinks the publication of his test for the true active principle of the glucoside *digitalinum* (digitalin) would be interesting. He says:

"There are quite a number of preparations claiming to be the true digitalin when almost inert, and since I have discovered one manufacturer of the true article, I think it essential to give the results of my investigation to the medical profession. The glucoside manufactured by Boehringer & Sons responds to the tests of the genuine article, viz.: A few drops of sulphuric acid, sp. gr. 1.84, will color it a bright yellow; and when the vapor of bromine is allowed to flow upon this it turns almost immediately to a beautiful purple color. This active principle is

given in doses to begin with about the $\frac{1}{100}$ th of a grain. The Merck's preparation must be prescribed in larger doses, and has been given in 1 grain doses.

"You can readily see what would be the effect of prescribing the true digitalin in such doses."

We have referred to this product, *Digitalinum verum* (Kiliani), repeatedly in these columns during the past year and more; it is without question the most reliable of the so-called digitalins available. The wonder to us is, that the profession has paid so little attention to this introduction by the great authority on digitalis derivatives, Kiliani.

AMYLOLYTIC FERMENTS.—In an article on this important subject Wyaatt Wingrave, M. R. C. S., Eng., (Assistant Surgeon to the Central London Throat and Ear Hospital), in the London *Lancet*, May 7, 1898, we are informed of a personal necessity that arose in the writer's experience for a reliable starch digestant. A crucial comparative examination was therefore made of many malt extracts and of Taka-Diastase, the tests being conducted both chemically and clinically.

He summarizes briefly: 1. That Taka-Diastase is the most powerful of the starch or diastatic ferments and the most reliable since it is more rapid in its action—i.e., "it will convert a larger amount (of starch) in a given time than will any other amylolytic ferment." 2. That Taka-Diastase seems to be less retarded in its digestive action by the presence of the organic acids (butyric, lactic), and also by tea, coffee and alcohol, than are saliva and the malt extracts. This is an important point in pyrosis. 3. That all mineral acids, etc., quickly stop and permanently destroy all diastatic action if allowed sufficient time and if present in sufficient quantities. 4. That Taka-Diastase and malt diastase have, like ptyalin, no action upon cellulose (uncooked starch). All starch food should therefore be cooked to permit of the starch ferment assisting Nature in this function.

TINCTURE OF MYRRH IN MIXED INFECTIONS.

—As one result of the inability to grapple with mixed infections, the administration of tincture of myrrh internally, which was first suggested in Philadelphia about ten years ago, is being resorted to in Europe, on account of its effect in increasing the number of leucocytes. Stroll, of Munich, reports eighty cases with only one death, treated by this method. He prescribes:

R Tincture of myrrh 4 parts
Glycerin 8 parts
Distilled water, enough to make .200 parts

This is given every hour, or, in severe cases of diphtheria, every half hour; the dose for a child under two years, a coffee-spoonful, and in children up to fifteen years, one to two teaspoonfuls.—*Pediatrics* from *Therapeutic Gazette*.

ACUTE DILATATION OF THE HEART.—From the Philadelphia *Polyclinic*, April 9, 1898, we quote this interesting clinical note:

A young woman seen in Dr. S. Solis-Cohen's clinic some weeks ago was suffering from *acute dilatation of the heart*, which followed a shock. The history elicited at the time is briefly as follows: The patient is a single woman, 26 years of age; an umbrella maker. In appearance she is thin and very anemic. She has never been ruddy, but pallor was not previously so marked, and beyond slight dyspeptic symptoms she had been comparatively well, until two weeks before, when she witnessed the sudden death of a friend. Since then she has grown paler and is unaccountably weak, having to rest several times while mounting a flight of stairs, etc. Upon examination the area of precordial dulness was found to be increased, the heart's action was weak and rapid and the sounds were empty, the pulse being small, scarcely perceptible, with a rate of 120. The blood was impaired, hemoglobin being reduced to 55 (Fleischl) and red cells to 3,760,000; the urine was normal.

Dr. Cohen mapped out a line of treatment, under which the patient has improved remarkably. She was told to rest in bed and diet was regulated. *Nitro-*

glycerin, minim 1-300, was given in the following mixture :

Spirit of glonoin..... 8 minims
Water..... 3 fluid ounces.
Mix.

Dose:—One fluidram three times daily.

In addition the following pill was prescribed :

Powdered digitalis..... $\frac{1}{2}$ grain.
Strychnin sulfate..... $\frac{3}{8}$ grain.
Mix.

One dose to be taken three times daily.

A laxative was added.

Two weeks later, the heart's action having become much stronger, and the valvular tone restored, the above treatment was modified by the substitution of the following prescription :

Tincture of nux vomica..... 5 minims.
Solution of potassium arsenite, 3 minims.
Tincture of ferric chlorid..... 10 minims.
Dilute phosphoric acid..... 15 minims.
Aromatic elixir..... 1 fluidram.
Water sufficient to make..... 2 fluidrams.
Mix.

One dose to be taken three times daily after meals.

The pulse-rate continuing rapid, tincture of digitalis in small increasing doses was added. The patient remained under this treatment four weeks, reporting constant improvement, and when last seen the blood examination showed hemoglobin 75 per cent., red cells 4,040,000, and the patient says she feels perfectly well. Observation and tonic treatment will be continued.

TURPENTINE IN THE TREATMENT OF ACNE ROSACEA.—A patient who was suffering from bronchitis as well as acne rosacea was given turpentine as an embrocation for his chest, and when it had produced the desired effect he took it into his head that what was good for his chest might prove useful for his face, which had been affected for a long time and appeared to be quite incurable, as a great many remedies had been tried unsuccessfully for it. The result was that the acne disappeared. His medical attendant, Dr. Betz, being greatly surprised at the result, tried the same remedy on other cases of acne rosacea and found it very efficacious. The application

causes, as might be expected, violent smarting and redness, which, however, disappear in a few hours. Dr. Betz suggests that the turpentine has a solvent action on the sebaceous secretion and that it produces a beneficial hyperemia in the dermis, and lastly that it also exerts a disinfecting action which prevents the further spread of the affection.—*Med. Standard.*

POTASSIUM IODIDE IN METRORRHAGIA FROM UTERINE FIBROMA.—Bouquet (*Semaine Médicale*, March 2, 1898; *Univ. Med. Magazine*) states that he has obtained very favorable results from the use of potassium iodide in hemorrhage resulting from uterine fibroids. Two years ago he prescribed the drug in a case suspected to be syphilitic, giving thirty grains a day the first week, and increasing the amount by fifteen grains weekly for three consecutive weeks, so that in the fourth week the patient was taking seventy-five grains a day. This dose was subsequently reduced to thirty grains a day. In two weeks the bleeding ceased and with it the syphilitic lesions. At a later period the drug was discontinued, and soon the hemorrhage re-appeared; the iodide was again administered in smaller doses, and finally the patient was able to suspend the treatment for two, then three, and afterwards for six months. Encouraged by this result Bouquet prescribed potassium iodide in the same doses in four other cases, in which there was no suspicion of syphilis. In all these cases the bleeding was arrested and the tumor was diminished in size. The writer thinks potassium iodide exerts a special effect upon the female genitalia, and might be tried not only in uterine fibroma but also in hemorrhagic metritis.

LACTOPHENIN.—In its Hospital Reports the *Yale Medical Journal*, June, 1898, says that lactophenin was used in a number of cases under treatment at the New Haven Hospital, and from their experience they gather these conclusions :

In a few cases of pneumonia it markedly reduced the temperature, and there

certainly seemed to be no depressing effects; they think its action is not always certain, and they prefer the external application of cold water in typhoid fever.

In the febrile affections of children this drug is superior to the antipyretics commonly used.

As an analgesic lactophenin was used in several attacks of migraine, and in a number of cases of acute articular rheumatism. In the former it relieved in nearly every instance. In the latter its beneficial effects were pronounced in a few cases, but pain and fever in other cases were not much influenced.

The conclusion is favorable, because in some cases the good results following its use are marked.

PUERPERAL ECLAMPSIA is an albuminuric auto-intoxication. The indications for treatment are the quieting of spasms and the elimination of the intoxicant. Spasm is best relieved by chloroform anæsthesia and the free use of chloral hydrate. Elimination is best and quickest and safest effected by venesection according to the patient's strength, and hourly doses of Clutterbuck's elaterium, one-fourth grain at a time, till there are free stools. If labor is in progress, delivery should take place with the forceps as soon as the os is sufficiently dilated; but if dilatation is unduly delayed it must be forced by means of the fingers, a Barnes dilator, or by some other equally good means.—J. B. Taylor, *Columbus Medical Journal*, Nov. 23, 1897.—*Medical Record*.

CALCIUM SULPHYDRATE AS A DEPILETORY.—Dr. A. W. Brayton, of Indianapolis, offered the following suggestion before the Section of Cutaneous Medicine and Surgery, at the 1897 (Phila.) meeting of the American Medical Association (we quote from *The Journal*):

Calcium sulphhydrate can be made by heating a granulated mixture of plaster-of-paris (calcium sulphate) with granulated wood charcoal (to take off the oxygen). A high temperature is necessary and it is

best obtained by means of gas. A muffler is used, *i. e.*, set in cinders or bone ash and the mixture is heated to redness.

By this method neither sulphuric acid or sulphid of iron is used. The dry, rose-colored or whitish product is applied to the skin in a wetted condition, or it may be put on dry and then wetted. Hydrogen sulphid is given off, which causes a rather foul smell. The substance is perfectly harmless to the skin and may be left on any length of time and does not even irritate abraded surfaces. It is not patented and can be made cheaply.

CREOSOTE IN SUPPURATIVE NEPHRITIS.—Dr. Leonard Weber, in some recent remarks on this subject before the Clinical Society of the New York Post-graduate School, stated that he claimed priority for this special method of treatment. He had published his observations in this line in the latter part of 1893, and they had since been confirmed, and the method adopted by a number of other physicians. As inoperable cases of suppurative nephritis were not infrequently met with, and as he had observed such excellent results the administration of creosote in pulmonary tuberculosis, he had been led to try it as a possible means of controlling the septic fever so commonly met with when the kidneys were the seat of a suppurative process. His expectations had been fully realized, for not only did this drug greatly improve the patient's general condition, but it was not found necessary to increase the dose, as in pulmonary tuberculosis. He usually gave from 3 to 5 gr. of beechwood creosote, *t. i. d.*, in capsules or alcoholic solution by mouth, or by rectum in the form of suppositories or injections.—*Philadelphia Medical Journal*.

CHRONIC INTESTINAL INDIGESTION IN CHILDREN.—Dr. S. Henry Dessau, of New York, in a recent paper on this subject, calls attention to the havoc played by the acute infectious diseases in children who are victims of chronic intestinal dyspepsia. In such subjects, the invasion of the

mucous membrane by the specific micro-organisms seems to set up a hypersecretion of mucus, which continues for a long time. These little sufferers not only are very restless at night, but during the daytime they may often be seen to sigh deeply. Sometimes they have fainting-spells, or periodical attacks of fever and vomiting, associated with the discharge of mucus in the stools. Aside from the obvious indication to limit the quantity of food taken at meals, and the times of taking it, it should be remembered that much harm is caused by inattention to the cooking of starchy foods. These should be cooked not less than 1 hour, in order that the starch-granules may be ruptured and their contents exposed to the action of the digestive fluids. When there is much flatulence the author recommends giving $\frac{1}{20}$ to $\frac{1}{10}$ gr. of calomel, with or without bismuth, 5 or 6 times a day for 3 or 4 days, and repeating after an interval of a week or 10 days. It is important to arrest the hypersecretion of mucus, for this substance furnishes an excellent culture-medium for microorganisms. To accomplish this he advises the administration of the fluid extract of spigelia, in combination with senna or cascara. When there is severe abdominal pain, it may be most satisfactorily controlled by the use of Kemp's rectal tube, and irrigation at a temperature of 110° F.—*Phila. Med. Jour.*

TREATMENT OF ITCH.—The treatment consists, first, in friction for half an hour of the whole body, except the head, with black soap, and it is continued by the patient himself during an hour while in a tepid bath. When he leaves the bath he is given to apply:

R Lard.....	64 parts
Sulphur.....	20 parts
Potassium subcarbonate,	
Water.....	8 parts
M. S. Externally.	

The patient then dresses, without wiping off the ointment, for the contact of this is necessary for the destruction of any remaining acari, and of any that might remain in the garments. Of 37,429 persons so treated at St. Louis Hospital in ten years, only 535 required a second application.—Hardy, *Medical Record*.

PAMPHLETS RECEIVED.

Does the Theory that Typhoid Fever can be Aborted Conflict with any Established Law of Pathology or with any known Scientific Fact? By JOHN ELIOT WOODBRIDGE, M.D., of Cleveland, Ohio.

The Possibilities of Antitoxin in Diphtheria. By GEORGE SUTTIE, M.D., of Detroit, Mich.

Some Remarks and Reports Upon Specimens in Abdominal Surgery. By H. O. WALKER, M.D., of Detroit, Mich.

Notes on the Non-Surgical Treatment of Boils, Carbuncles and Felons. By L. DUNCAN BULKLEY, M. D., of New York.

Deficient Excretion from Kidneys not Organically Diseased, and Some of the Diseases Peculiar to Women, and Diseases of the Skin. By L. DUNCAN BULKLEY, M.D., of New York.

The Truth about Cigarettes, Papers read and Discussed by the Medico-Legal Society of New York.

The Surgery of the Gall-bladder and its Ducts. By H. O. WALKER, M.D., of New York.

Neurotic Eczema. By L. D. BULKLEY, M.D., of New York.

Imperative Concept. By B. B. BRASHEAR, M.D., of Cleveland, O.

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The Committee will return the unsuccessful essays if reclaimed by their respective writers or their agents within one year.

The Committee reserve the right not to make an award if no essay submitted is considered worthy of the prize.

The treatment of the subject must in accordance with the conditions of the Trust, embody original observations or researches or original deductions.

The competition shall be open to members of the medical profession and men of science in the United States.

The original of the successful essay shall become the property of the College of Physicians.

The trustees shall have full control of the publication of the memorial essay. It shall be published in the Transactions of the College, and also when expedient as a separate issue.

Address: J. C. WILSON, M.D., Chairman, College of Physicians, 219 South Thirteenth Street, Philadelphia, Pa.

